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TREATMENT OF UTERINE FIBROIDS AND BLEEDING CASES, WITH PARTICULAR REFERENCE TO RADIATION METHODS.

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The author desires to apologize for attempting to present two such wide subjects in this short paper. He will make no effort to do more than touch the high points, but hopes to give a picture of the principles which guide him in deciding on treatment in the patients he meets with in his daily practice, and also in some cases to indicate the reasons why his particular views are held.

Excessive loss of blood at the menstrual periods, or more or less continuous bleeding, is common from the onset of menstruation to its close. Its periods of greatest frequency are in the years just preceding the climateric, and in the years immediately succeeding the beginning of menstruation. All causes of bleeding due to organic changes in the pelvic organs must be excluded. The term bleeding case, or bleeding uterus, should be strictly applied to cases in which there is no gross pathology. They are caused apparently most frequently by disturbances in the ovarian function, or in the complex of functions of the internal secretory organs which give rise to hyperaemias of the uterine mucosa. Some cases are due to hypervascularization of the uterine mucous membrane, although it is difficult to separate this group clinically from the first. A third cause is found in blood dycrasias; such patients are rarely true bleeders and often do not show abnormally slow coagulation of blood in vitro; purpuric hemorrhages are common and blood platelets may be absent or nearly always are greatly reduced in numbers.

Whatever the cause, if the loss of blood is great, there results anemia with all its consequences; if the loss of blood is only moderate, as in many of the continuous bleedings, the psychic worries and physical discomfort of the patient, are usually enough to demand treatment.

The treatment in young girls is guided by decidedly different considerations than those which prevail in the older women; in the latter there is no objection to permanently stopping menstruation, while in the former the preservation of the menstrual function and the possibilities of conception are most desirable.

General hygienic methods, rest, good food, suitable exercises, and merely watching, are sufficient in many of the young girls to bring about a return to normal. This is, of course, particularly true in the milder cases. A most important, and, in my experience, little known fact is that local infections in remote parts of the body can cause this condition and maintain it against all general treatment and the special gynaecological curettage. In every

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case the tonsils, the teeth, and all other possible foci of infection, should be investigated. Cure by tonsillectomy is not uncommon. Where general measures fail, the next step is a thorough curettage. This often relieves the condition especially in young girls. There are many exceptions, however, to this satisfactory result. Repeated curettages, unjustifiable in older women, are sometimes effectual in the girls. A common statement is that the bleeding in these cases is due to or associated with a polypoid endometritis. In going over 15 successive cases to determine if this were true, only one definite case was found, in 5 others there was glandular hyperplasia, in 5 of the remaining there was normal endometrium, and in the 4 residual cases a marked reduction in the number of glands as compared with the normal findings.

Radiation to reduce menstruation or to stop it for a few months, should be limited to 500 millicurie hours. Under this dosage we have never observed a permanent amenorrhoea. The treatment is given intrauterine, in a single dose after curettage. In at least 50% of all cases a permanent amenorrhoea is not obtained by a gram or curie hour given in the same way. Where permanent amenorrhoea is aimed at, a gram and a half or a curie and a half hour treatment should be given, and this will be found effectual in nearly 90% of the cases. The return of menstruation is usually marked by a return to normal quantities of flow. Where the flow is excessive, a second treatment is quite effectual, and as a rule is better given transabdominally. Twenty grams hours divided into two portals, at a distance from the skin of 3 ins., without producing any erythema, are equally effectual as one and a half gram hours intrauterine. This treatment can be given equally well by deep X-ray, preferably with copper filtration, focal distance of 50 centimeters, and Kv. of 200 plus, 20 by 20 portals, front and back, and a light tanning dose.

Surgical treatment consisting of supravaginal hysterectomy, or wedge-shaped reductions of the ovaries or uterus, or of high amputations, are all frequently employed and give satisfactory results. They are undesirable in the young patients and involve, in the older ones, much greater risk, longer convalescence, and more likelihood to complications than does radiation.

Our rule is, therefore, to advise radium intrauterine treatment under 500 millicurie hours in the young people, and in such others as have a desire to retain menstruation. As a matter of fact, the small dosage is not nearly so often successful in the older patients, and it is better with them to treat at the first sitting with the object of stopping menstruation permanently.

External treatment yields similar results but does not have the advantage of primarily acting on the endometrium, and means a considerably greater total treatment. Intrauterine treatment is especially desirable where only reductions in the flow are desired. It entails less possible injury to the ovaries and in our own experience is more likely to succeed.

Uterine fibroids are quite common as casual findings unassociated with any abnormal symptoms. A small fibroid, which is neither occasioning bleeding nor any pressure discomfort, had best be left alone. It is wise to advise the patient of the condition, record the size of the tumor, and at six-monthly or yearly intervals, examine to determine if it is remaining in *statuo quo*. It often is. When the tumors are growing or have obtained large size, or when bleeding sets in, or when there is pressure on the rectum, or bladder, some treatment has to be considered. There are only two courses which can be followed, radiation or operation. There are wide differences of opinion among authorities as to the indications of these two methods. Those favoring operation point to the uncertainty of diagnosis, the possibilities of malignant transformation of fibroids, to the low operative mortality, to the desirability in young cases of preserving the

conception possibilities and in older ones the ovarian function. They would limit radiation to patients whose general condition is below normal or who have some special disability or disease, rendering anaesthesia and operation abnormally hazardous. The number of responsible people in this group is comparatively small; a very greater number of gynaecologists are inclined to place the small fibroids, by which is meant those in size not greater than a two-months pregnancy, in the same class as the bleeding cases where radiation is preferable to hysterectomy. The small fibroids in young women are excepted both from the wish to preserve the reproductive function and to avoid the discomfort of an artificial menopause. Pelvic inflammatory diseases, possibilities of ovarian new growths, other abdominal conditions, demanding operation, and uncertainty of diagnosis, are also indications that operative treatment should be selected. Many authors state that symptoms of pressure occasioned by an impacted fibroid is a positive indication that operation should be resorted to. There is considerable variation as to opinion of what constitutes a small fibroid. Some limit this definition to intrapelvic growths and others extend it all the way to tumors reaching the umbilicus.

Before taking up my personal views and practices, it seems desirable to state some of the well established facts in regard to fibroids and some of the consequences of radiation and operation.

Fibroids are much commoner after the third decade is passed, but are by no means uncommon in the third, and are sometimes met with in the second decade. They tend to produce, or at least be associated with, sterility. They vary greatly in rapidity of growth, and in the ultimate size they attain. There is a marked tendency to limitations in size, and most fibroids will never be large tumors. The most serious disturbance due to them is excessive menstrual bleeding or hemorrhages, and in a relatively small proportion of submucous cases, continuous bleeding. The large, abdominal tumors rarely cause the pressure disturbances met with in the impacted intrapelvic types. There is a marked tendency for fibroids to prolong the normal average menstrual life for several years. There is a tendency for fibroids to cease growing and to involute with the menopause; in rare instances they may disappear. Exceptions to this rule and growth after the menopause are not uncommon. Simple degenerations, particularly hyalin changes, are very common. In large tumors cystic transformation and very rarely abscess are met with. Genuine sarcomatous degeneration is rare, so rare as to be by some considered as practically non-existent. Malignant disease of the mucosa of the body of the uterus is not uncommon, but not more frequent than in non-fibroid uteri. It is safe to make the same statement in regard to adnexal malignancy and cancer of the uterine cervix. Adhesions and pelvic inflammatory lesions of a chronic character undeterminable by clinical methods of examination, especially in all but the smaller fibroids, are commoner than in non-fibroid uteri.

Myomectomy is limited in application to cases in which the tumor is single or at least not multiple. Its mortality rate is higher than that of hysterectomy. When done in cases where hemorrhage is a pronounced symptom, it often does not relieve this condition. There is also a marked tendency to recurrence, requiring further treatment. It does leave a distinct possibility of pregnancy and normal childbirth, but this is quite possible in many cases of fibroid uterus without preliminary myomectomy. Hysterectomy affords a permanent cure but ends any possibility of childbearing. It is accompanied by minimum mortality, in the best of hands, of 1%, and may be considerably higher, depending on the local and general conditions met with in any given series. Radiation is from the primary mortality standpoint a safe procedure; personally I have never met with a

case, and it is safe to put it at less than 1/10 of 1%. While it is not absolutely clear, it seems that the effect of radiation is from a two-fold direction, (1), through the ovary, (2), directly on the tumor. It is possible for a patient to become pregnant and give birth to a normal child after the cure of a uterine fibroid by radiation. It is a very rare occurrence for a fibroid to disappear completely from radiation without a cessation of menstruation. The persistence of menstruation in a fibroid case which has been radiated and which has not disappeared, is frequently accompanied by a re-growth of the fibroid. Contrasting with this, if a fibroid completely disappears and after a year or more of amenorrhoea there is a return of menstruation, the fibroid is very unlikely to grow again. It is evident from this that in treating fibroids, whether in young or old patients, that a full treatment is necessary in order to secure a complete result. It is of interest in connection with the hot flushings and other menopausal symptoms induced by radiation, that they are nearly always much less marked in young than in old patients. This observation was originally a great surprise but has been confirmed many times. These menopausal symptoms are often absent, or very trifling, from both the menopausal and oophorectomy artificial climacterics. They are not uncommon after hysterectomy where the ovaries are preserved.

An accurate pre-treatment diagnosis is more important when radiation is considered as a method of treatment than when operation alone is contemplated. An office examination should never be relied on in any case except those where anaesthesia could not be tolerated on account of some grave, organic disease. In every case an examination under anaesthetic with the use of the uterine sound and a thorough curettage should be made. It is never possible to exclude malignancy without this precaution. In any case where the diagnosis is in doubt, and where a reasonable hope of cure can be looked forward to from surgical removal, it should be resorted to and radiation put aside. In very large tumors it is increasingly difficult to exclude ovarian malignancy, and when there is a history of very rapid growth it can almost be assumed. The presence of ascites and usually the presence of pain, is prima facie evidence of malignancy.

The association of pelvic inflammatory disease with fibroids is not uncommon. In the smaller tumors it is usually quite distinctly determinable by the history and by the physical findings. The occurrence of adhesions and old lesions in the larger cases is common and may entirely escape notice. Such conditions are, however, without practical bearing on the question of radiation, as patients with such complications do as well as the uncomplicated cases.

It is frequently impossible to differentiate adenomyoma from ordinary myoma, but this is more a question of pathological than practical interest, as both do equally well from radiation.

Hemorrhage is controlled in practically every case of uterine fibroids by radiation; as a rule, more rapidly by intrauterine than external methods; it is not as immediate in its effect as hysterectomy; often bleeding may take place in a period of from six to eight weeks after the treatment. A thorough preliminary curettage and the selection of the time for treatment immediately after a menstrual period, are the best means to minimize post-treatment bleeding. It is extremely rare that transfusions of blood are required in these cases, either as a preliminary or subsequent to treatment. Where hemorrhage has persisted over years, there is a tendency to aplastic anemia. Such patients require hospital treatment; rest in bed and transfusions in the extreme cases, just as when hysterectomy is done. In the ordinary case of intrauterine treatment, not more than seven days and rarely more than two of rest in bed, is necessary. No confinement

to bed is necessary where external treatment alone is employed. These patients, if not bleeding, are allowed to go along with their usual activities.

The effects of radiation on tumor are much more variable; in some the reduction is quite marked before the amenorrhoea is established; occasionally a tumor completely disappears in this two months period. In other cases the reduction is very slow, extending over many months and even years. Intrauterine radium radiation produces more rapid reduction than does external radiation, and is complete in a decidedly higher percentage of cases. At least 80% of the small fibroids disappear from it, and about 50% of the large tumors. Nothing in medicine is more surprising than the disappearance of a huge fibroid reaching above the umbilicus in the course of a year following a single or a series of radiations.

Calcified fibroids do not respond to radiation. They are usually suggested by a dense, hard feeling on bi-manual palpation, and can be demonstrated in X-ray pictures. These tumors also rarely show any tendency to grow. If they are symptomless the best treatment is to let them alone. They are not infrequently associated with pelvic inflammatory disease, and in such instances should be treated surgically.

Submucous fibroid, presenting at the cervix as a polyp when small, or as an inverted uterus when large, and sloughing fibroids, can and should be as a rule removed by vaginal myomectomy. When other fibroids are present after the removal, the same general principles as to operation or radiation apply as in other fibroid cases.

While intrauterine radiation is safe in all fibroids where there are no local signs of infection in the pelvis, or external genital organs, it is not safe in the presence of infection, and it should not be employed where definite masses in the appendages are detectable. Such cases are likely to light up into acute processes. It is possible, especially by broken dose procedure, to radiate externally without running a serious risk in this way. This has been observed in a number of inflammatory cases which were treated to produce amenorrhoea on the assumption that the inflammatory masses relieved of the periodic menstrual congestion would heal better. As a matter of fact, such treatment must be given very carefully as it is possible to light up a chronic cases and to exaggerate an acute one by external treatment alone.

Incarcerated pelvic tumors causing pressure symptoms are nearly always associated with some inflammatory trouble, and are best treated by external radiation. In many of these cases splendid results are obtained; even when the growth shrinks only moderately the symptoms as a rule disappear. Often the effects on the tumor are very complete.

The situation of the tumor as subserous, interstitial, or submucous, is not of consequence so far as response to radiation is concerned, with the exception already noted.

TECHNIC

For intrauterine radiation we employ a series of radium tubes placed in a containing sound in tandem arrangement. The active portion of the applicator is about 2 inches long. The total filtration is 2 millimeters of copper or brass and 1 millimeter of beeswax applied as an even coating. Where complete and permanent amenorrhoea is aimed at, the dosage is 1½ gram hours in the small fibroids and in all cases with short uterine cavities; where very extensive cavities are met with, in the large tumors this dosage may be doubled by moving the applicator to 2 or 3 different positions; where the uterine cavity is short, in large tumors the additional radiation above the normal average should be given by supplementing external treatment.

External radiation may be given either with radium or by X-ray. When radium is employed and a distance of 3 inches from the skin used, amennorrhoea can be secured by a total of 20 gram hours through several portals over the lower abdomen. Where very large tumors are present, this may be increased to 30 gram hours.

Where X-ray is employed it is of great advantage to use as high voltages and as great amperages as possible. The portals should be large enough to take in the entire tumor. We ordinarily employ a 20 by 20 cm. portal on the front and a similar one from the back. Using 240 Kv. and 40 Ma., and a focal distance of 50 cm. and a filter of 1 mm. copper, 1 mm. aluminum, and 3 mm. spongey rubber, 8 minutes total through each field is enough to produce an amenorrhoea and a slight tanning of the skin. There is never nausea or upset until several hours after the treatment. Where the full dose is given at a single treatment there may be several days of upset. A much more convenient method is to give at week intervals 4 minutes until the complete dose is obtained. There is no objection to reducing the time of the individual treatment to 2 minutes and treating twice a week. It is possible to secure equally good results with much lower voltages and thinner filters, but there is more likelihood of skin injuries and the constitutional effects are much more pronounced. With the technic above indicated, the whole procedure is easier and pleasanter both from the patient's and the operator's standpoints. I emphasize this because there is a widespread but erroneous idea that high-powered machines mean more disturbance to the patient than lower voltages and amperages. This, in spite of the fact, that high penetrations mean less absorption in the tissues which it is desired not to radiate and more in the tissues under treatment.

CONCLUSIONS.

I think it is obvious from what has been said that there are definite fields for operative surgery, for intrauterine radiation with radium, and for external radiation with either radium or X-ray, in the treatment of uterine bleeding and fibroid cases. Each case should be given most careful consideration and that method followed which seems logically to meet the necessity of the individual. It is a mistake, I believe, to lay down, or try to lay down, hard and fixed rules. The decreased primary risk of death, and the much less economic disablement, especially in those who must work for a living, are in favor of giving radiation a first position, especially as it in no way makes operation more difficult should this finally be necessary. This position may be altered by uncertainty in diagnosis, by complications associated with the fibroid, as well as by other intra-abdominal conditions to which no treatment can be applied but operation.

DISCUSSION.

Dr. Rudolph Matas (New Orleans): I simply want to say that a paper of this character, coming from the hands of Dr. Burnam, should not be allowed to pass by without at least a word of praise for the valuable information that he and the Kelly clinic have given to all of us.

I don't profess at all to be a Roentgenologist or Curietherapist, but, as a clinician I have had ample opportunities to know what radium and radiation can do. I don't know that there is any point of difference whatever in what Dr. Burnam has said with what my experience has taught me. I couldn't discuss the technical point at all and regret that the radiologists who were appointed to open the discussion are not here to assist in dealing with the technical side.

Clinically, I think that everything Dr. Burnam has said just emphasizes what we have learned by experience, and it would be very difficult to add anything excepting that I think we are learning more and more the relative value of intrauterine radium as compared with the extra-uterine X-ray radiations. I must confess I have very little confidence in external X-ray radiation. Judging from past experience with uterine and abdominal tumors a great deal of harm was done in the early days of deep X-ray therapy by one or two intensive or massive applications which had a devastating effect on the uterus and everything near it (intestines, bladder, rectum). I have seen most disastrous consequences but we are learning

more and more every day by a rapidly accumulating experience so that we are now becoming more skilled in the dosage and in the proper selection of cases.

I think that radiation in smaller or fractional doses which do not bring about disorganization, and the great necrogenic changes in the tissues that followed the old massive method, is an advance and that we may hope that radiation in this fractional way will effect good results in deep abdominal and pelvic neoplasms that are not accessible to radium.

There is no question in my mind of the great superiority of radium over the X-ray in the treatment of uterine fibroids and cancer. Here again we have learned the limitations of radium. When we deal with pure, uncomplicated intrauterine fibromyomas, free from complicating pelvic infections, the results obtained by radium are wonderful.

Since we have learned how to use radium, its application to uterine fibroids has cut down a large percentage of our operative statistics and I am glad of it, too, as an evidence of progress in spite of all the success and relatively low mortality of hysterectomy. To those who were in the habit of treating all fibroids by operation in the pre-Curie days, it is difficult to see much or any advantages in the radium treatment. But with the notable exceptions of the very large impacted, subperitoneal, extra-uterine and complicated fibroids, the absolute benignity and success of radium in effecting a permanent cure when properly applied, is too great an advantage from the point of view of the patient to allow any personal prejudices to rule our conduct. This is particularly true of fibromyomas which involve the whole body of the uterus in which the question of sterility does not enter into the problem. In young women within the childbearing period, with great desire for progeny and in whom a simple myomectomy may still preserve the uterus for gestation, an operation has its advantages over radium. But in properly selected cases, there can be no doubt of the great superiority of radium. I am quite sure that in dealing with our own relatives we would always weigh the advantages of radium before considering a hysterectomy. On the other hand, allow me to emphasize that the indiscriminate use of radium is a most dangerous and reprehensible practice, more especially when tubal or other pelvic infections complicate the fibroid.

There is an immense amount of material here to talk about as the subject. Uterine fibroids is one which is familiar to every practitioner and affords large oportunities for a discussion of personal experience. But in the end we would arrive at the well digested conclusions presented by Dr. Burnam. He has brought to this meeting the right gospel. He has brought to us the conclusions derived from his exceptionally large opportunities for observation, and in this way he and other distinguished experts most favorably situated for a comparative study of radium and surgery, are doing great good by teaching the profession how to discriminate between radiologic and surgical therapeutics in their application to individual cases.

Dr. H. W. E. Walther (New Orleans): It is hardly fitting for a urologist to encroach upon the gynecologist's field, but I feel that we are greatly indebted to Dr. Burnam for having brought us this message of the judicious application of radium in non-malignant growths of this type.

When radium was first given to the medical profession, the majority of the work where it was employed was in cancer, and the association from the beginning of radium in the treatment of malignant growths seemed to set a wall around this combination. Many up until the present time seemed to be blinded to the fact that radium has a broad field of usefulness in the treatment of neoplasms other than those malignant. I think that therefore the message should be taken to heart.

Dr. Burnam very ably brought out in the paper the harmful use of over-radiation, and that is one feature that the medical profession in this portion of the country, at least a great majority of them, still do not seem to appreciate. The judicious use of radium in therapeutic quantities does require study and thought. Many men who have radium today and are using it, appear to me to be using the agent with very little thought for the preservation of physiological functions of the organs radiated. I think Dr. Burnam very beautifully brought out that point, of trying to cure a condition but not leaving the patient permanently crippled in some function.

Personally, as I say, I have very little opportunity of invading this field except in a urological way, but we have seen a limited number of cases that have gone through the brunt of infections of the whole genital apparatus in the female, left with these bleeding conditions, that were cured by radium. I think that it has a decided field of usefulness here.

Dr. S. C. Barrow (Shreveport): I didn't, unfortunately, hear the doctor's paper, but I feel sure that I know what he said, having heard him before and having read his papers. I presume the paper covered the radiation treatment of

fibromatous hemorrhage which means radiation by radium as well as X-Ray.

The first case of fibroma that I treated was in 1914 and I begged that case with three others. This was a woman who had had a fibroid, necessitating a sitting posture at all times, for sleep as well as through the day, who had a cardiac crippled condition, and whose fibroid was the size of a twin pregnancy at full term. She was a relative of the doctor whom I persuaded to let me treat her. The fibroid was fixed, immovable, with general edema.

After one series, and at that time we were using comparatively speaking superficial radiation, the fibroid became very movable. We gave her six or seven series at intervals of thirty days and the fibroid reduced fully three-fourths its size.

We are using exclusively x-radiation in fibroids and hemorrhagic conditions of the uterus in women forty years old and older. In young women we naturally are selecting radium as the agent.

There is a good deal said about the kind of fibroid to be treated and the treatment of these conditions if they are not malignant. A subperitoneal or a submucous fibroid, if pedunculated, of course, should not be treated by radiation. A submucous fibroid if it has a broad base or free circulation, as well as an intramural.

I don't believe that the question today is one of operation or radiation. I believe it is a question of what *kind* of radiation, with the exception of a few cases where the indications are so very cleancut that an operation is the desirable thing. Our mortality is nil. Personally, we have never had an X-ray burn. I have never seen any nervous manifestations following the treatment of these conditions other than you would expect following a menopause that lasted only two or three months.

I am sorry I did not hear the doctor's paper and want to join in with the rest of the crowd in thanking him for coming this far.

Dr. Burnam (closing): I think that there is a very distinct difference betwen radium intra-uterine and radium on the abdomen or X-ray on the abdomen. In the first place, the reduction of tumor is much more rapid by the intra-uterine method and is complete in a much higher percentage of cases. The reports from abroad are that about twenty percent of the cases under x-radiation are completely cured, whereas we know that even in the large fibroids more than 50%, and in the small ones from 70% to 90%, completely disappear from intrauterine radiation.

It is true that one can give external radiation in inflammatory cases much more safely, and in fact the internal radium ought not to be given at all under such conditions. One should be guarded if there is infection, as well as with extreme anemias and low states. I think Dr. Matas has stated the problem very clearly.

We use an X-Ray machine which delivers 50 Ma., and 250 Kv., with which exactly sixteen minutes of exposure produces amenorrhoea, but we can hardly ever give full dose at one time without having the patient unduly nauseated and prostrated. Equally good results can be obtained by fractionating the treatment, and we reduce to fourths and often eighths or tenths to effect this.

I am very much obliged to the gentlemen for the considerate discussion and thank you all.

SURGICAL VERSUS NON-SURGICAL MANAGEMENT OF PLACENTA PRAEVIA.*

LUCIEN A. LEDOUX, M. D.,
NEW ORLEANS.

In dealing with this formidable complication of pregnancy and labor I wish to limit myself to the consideration of its management at term. The success of any treatment is largely dependent on the condition of the patient, the type of case, the judgment and experience of the attendant and finally prompt diagnosis and early treament.

The ideal treatment is the one that preserves the life of mother and child; avoids blood loss and trauma and minimizes the danger of infection.

Any method of treatment which increases these hazards, or sacrifices the life of one or the other, cannot be considered as successful.

My results measured by the above principles satisfied me that my method of treatment in the past required some revision; therefore, I reviewed the literature of the past two years and studied the records of

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the Charity Hospital for the past twenty years, and am presenting them for your consideration.

Review of the records of cases of placenta praevia, Charity Hospital, New Orleans, period of January, 1906—January, 1926, exclusive:

During these twenty years, there were admitted a total of sixty-six (66) cases of placenta praevia. Of this number thirty-five (35) occurred in white, thirty-one (31) in colored patients.

Five (5) of this number were primipara, forty-five (45) were multipara and in fifteen (15) cases it was not stated. The maximum age was forty-six (46), the minimum was fifteen (15).

A negative history was furnished in forty-six (46) cases and it was not stated in twenty (20).

The types were represented as follows:

Marginal 20
Cervical 17
Central 17
Not stated 12

Delivered Normally—total (8 cases):
Maternal deaths 4
Fetal deaths 8
TYPES—Three (3) Marginal, the others not stated.

Delivered Artificially—total (58 cases):
Maternal deaths .....(15)
Fetal deaths .....(22)
Fetal deaths not stated..(2)
TYPES (Marginal 16
(Cervical 17
(Central 16
(Not stated 17

Methods employed—
Cervical and Vaginal pack—total (22 cases):
Maternal deaths .....(10)
Fetal deaths .....(15)
TYPES (Marginal 4
(Cervical 5
(Central 8
(Not stated 5

Puncture of Membranes—total (3 cases):
Maternal deaths 2
Fetal deaths 3
TYPES (Marginal 1
(Cervical 2
(Central 0

Manual Dilatation—total (9 cases):
Maternal deaths .....(4)
Fetal deaths .....(6)
TYPES (Marginal 2
(Cervical 11
(Central 5
(Not stated 1

Puncture of Membranes—total (3 cases):
Maternal cases 2
Fetal deaths 3
TYPES (Marginal 1
(Cervical 2
(Central 0

Manual Dilatation—total (9 cases):
Maternal deaths .....(1)
Fetal deaths .....(6)
TYPES (Marginal 2
(Cervical 1
(Central 5
(Not stated 1

Hydrostatic Bags—total (11 cases):
Maternal deaths .....(1)
Fetal deaths .....(8)
TYPES (Marginal 7
(Cervical 2
(Central 2

Version (Braxton Hicks)—total (1 case):
Maternal deaths 0
Fetal deaths 1
TYPES (Marginal 1
(Cervical 0
(Central 0

Version and Extraction—total (31 cases):
Maternal deaths 12
Fetal deaths 16
TYPES (Marginal 11
(Cervical 7
(Central 13

Forceps—total (7 cases):
Maternal deaths..... 2
Fetal deaths 4
High—2 TYPES (Marginal..... 3
Med.—2 (Cervical..... 4
Low —3 (Central..... 0

Vaginal Section—total (2 cases):
In conjunction with Version and Extraction:
Maternal deaths 1
Fetal deaths 1
TYPES (Marginal 1
(Cervical 1
(Central 0

Abdominal Section—total (16 cases):
Selective (14 cases):

Maternal deaths 4
Fetal deaths 2

TYPES (Marginal 1
(Cervical 4
(Central 6
(Not stated 3

NOTE—One fetal death ascribed to torsion of cord about neck.

Abdominal Section (after handling, etc.)—total (2 cases):

Maternal dethas 1
Fetal detahs 1

TYPES (Marginal 0
(Cervical 1
(Central 0
(Not stated 1

In Extremis (admitted)—total (8 cases):
Manner of delivery:

Normally 2
Rup. Membranes 1
Low forceps 1
Version and Extraction.... 4

Maternal deaths 8
Fetal deaths 7
Not stated (fetal)..... 1

TYPES (Marginal 1
(Cervical 4
(Central 3

Infection following		DEGREES		
Packing	———	——	——	———
Bags	———	——	——	———
Rupture of Membranes	0 of 3	——	——	———
Version	0 of 1	——	——	———
Forceps	1 of 7	1+	——	———
Manual dilatation	———	——	——	———
Vaginal Section	1 of 2	1+	——	———
Version & Extraction	3 of 31	1+	1++	1+++
Abdominal Section (Selective)	10 of 14	2+	4++	4+++
Abdominal Section (after handling)	2 of 2	0	1++	1+++

I have always felt that a statistical report lacked full value unless accompanied by an analysis; in this case, regarding the different methods of treatment.

The majority of the cases reported were true emergencies, having been admitted with a diagnosis of active uterine hemorrhage; approximately half of the number having been tampered with before admission. The maternal deaths listed under normal deliveries resulted from hemorrhage; these cases being admitted in an advanced state.

The artificial deliveries followed the use of the wet gauze or iodoform cervical and vaginal pack, puncture of the membranes, manual dilatation of the cervix, hydrostatic bags, version (Braxton Hicks), version and extraction, forceps, vaginal and abdominal caesarian section.

PACKING.

Packing was resorted to in most instances as a preliminary method of treatment and was used chiefly in the central type. A tight vaginal pack will stimulate uterine contractions and will very effectively control hemorrhage of marginal and cervical types. The advantages of the iodoform over the wet gauze pack, I believe, are debatable, and the role played by packing in promoting infection is dependent on the manner, the frequency and the duration of the tamponning.

The high maternal and fetal mortality charged to this method should be properly placed to the credit of the terminal method of delivery.

PUNCTURE OF MEMBRANES.

Rupture of the membranes during a uterine contraction favors descent of the presenting part which serves as a wedge and controls hemorrhage. It is of greatest value in the marginal type and here again the mortality is attributable, either to its use in cases of pronounced hemorrhage or to the terminal method of delivery as was the case in this series.

MANUAL DILATATION.

According to the Harris method manual dilatation was frequently employed; chiefly in the central types. From the record one notes that the dilatations were done rapidly with resultant cervical tears, with hemorrhage increasing as the dilatation progressed, and finally when completed, the

patients were described as being in a state of profound shock and collapse.

Dilatation was done in practically all instances as a preliminary to version and extraction and it appears that a large portion of the mortality charged to the latter operations, should be really credited to the manual dilatation and the resulting hemorrhage.

This method may be permissible in the marginal and cervical types, but the high mortality of both patients in the series, as in others justly condemns its use in central placenta praevia.

HYDROSTATIC BAGS.

This mode of treatment is being greatly advocated at this time, yet a review of the recent literature reveals a wide divergence of opinions. The low maternal mortality generally reported is gratifying, but the fetal mortality is uniformally very high, and its action in stimulating uterine contraction and controlling the hemorrhage in the marginal and cervical types has been to a large extent successful. It is agreed that a large bag should be used and an intra-ovular insertion is more effective in controlling hemorrhage than an extra-ovular insertion. In this series, bags were resorted to promptly in marginal type cases, the insertion being intra-ovular and the results obtained were the same as stated in the opening paragraph. The bags failed in two cases and other measures of delivery were resorted to.

FORCEPS.

Forceps were used in partial placenta praevia, its application being almost equally divided between the two types. There were two high, two medium and three low applications, the maternal deaths being due to repeated, severe hemorrhages before admission. The fetal deaths, other than prematurity were ascribed to the same cause.

VERSION (BRAXTON HICKS).

There is but one case recorded as having been treated by this method, a marginal type case preceded by the use of bags with fetal deaths. This method in conjunction with the hydrostatic bag is favored at this time by many leading obstetricians but it is also being vigorously opposed by as eminent authorites.

It has proven of value in the control of hemorrhage and has resulted in a low maternal, but high fetal mortality.

VERSION AND EXTRACTION.

This combined method of delivery was more frequently employed than any other method; preceded by the insertion of a hydrostatic bag or manual dilatation of the cervix, with a high fetal and maternal mortality.

The marginal type cases were handled primarily with the hydrostatic bag; the central and most of the cervical types, by manual dilatation of the cervix.

The maternal mortality was lower following the use of the bags, the fetal mortality much higher. With manual dilatation, the maternal rate was higher, the fetal mortality lessened.

Rupture of the uterus in the lower uterine segment occurred more frequently following manual dilatation.

Hemorrhage was immediately controlled in most instances, after version and traction on one or both of the extremities.

The majority of maternal deaths following manual dilatation and the combined method, resulted from the continuous and profuse hemorrhage accompanying the dilatation; rupture of the uterus was secondary and the lesser factor.

While refraining from extraction controlled hemorrhage, in most cases the preceding version was complicated by rupture of the uterus which increased the mortality in spite of the conservatism.

VAGINAL HYSTEROTOMY.

Vaginal section was done in two cases of partial placenta praevia. A uni-lateral incision was made followed by version and extraction. I considered the indication in one case, a rigid os, difficult of dilatation, in the other, cicatricial stenosis following a high cervical amputation.

This method in my opinion will eventually become more generally employed in properly selected cases of partial placenta praevia, particularly if the fetus is viable. The operation was elective in both cases, both mothers recovered and there was one fetal death.

ABDOMINAL SECTION.

In this group I have placed all but two cases under the heading of elective section. These two cases were subjected to frequent examinations and were packed repeatedly; and for this reason are excluded. The remainder were subjected in practically all instances to but one examination. Cases were operated upon under general anesthesia, the transperitoneal and high fundal incision being used. The indication in most cases was central and cervical placenta praevia. The total maternal deaths numbered five (5) cases, one had been repeatedly examined and packed, and the other died of peritonitis, complicated by a severe acute nephritis.

Our maternal death rate is excessive as compared to reports from other sources and I am inclined to look to other reasons for their mortality, aside from the indication and the operation.

Our low fetal mortality compares very favorably with the results obtained and reported from other hospitals.

Of the three (3) fetal deaths, one is credited to torsion of the cord in utero.

ADVANCED CASES.

Eight were admitted in extremis with histories of repeated hemorrhages of long duration.

The most severe types of placenta praevia predominated, varied treatment was applied, the mortality in all cases resulting from the previous hemorrhages.

INFECTION.

There are no infections recorded in the cases treated by simple rupture of the membranes. With the pack, manual dilatation and the hydrostatic bags, it is difficult to determine the rate of infection, as these measures were used as a part of a combined method of delivery; used per se the infective rate was very low.

Following forceps applications and vaginal section, there was one infected (slight) case respectively.

After version and extraction the infective mortality appears surprising low. One must keep in mind though, the influence of the maternal mortality in reducing the percentage in the number of cases.

Infections were slightly in excess following manual dilatation as compared to the hydrostatic bag.

It will be noted that twelve of the sixteen cases treated by abdominal section are listed as having been infected varying in degree from slight to severe.

Of the severely infected cases, all terminated in general peritonitis four to five days after operation; of the remaining infected cases all made complete recoveries.

While one would expect the infective rate following abdominal section in placenta praevia to be sightly greater than elective section following other indications, nevertheless our mortality is excessive and not truly representative. As many of the records lack progress—notes and other data, one is forced to accept infection as the only complication post-operatively.

CONCLUSION.

In conclusion, it appears that the prognosis is favorably influenced by early diagnosis and prompt treatment.

Delay or failure in diagnosis, delay in instituting treatment plus an experienced or careless manipulation affect the prognosis unfavorably.

All cases should be hospitalized, given general supportive treatment for hemorrhage and shock, a tight cervical or vaginal pack if hemorrhage is repeated or severe, or if transportation at a distance is required, and finally preparations made for transfusion.

(1) Immediate abdominal section using the high fundal incision in cases of central and cervical placenta praevia providing the patient is afebrile, has not been subjected to malicious examinations or manipulations and the fetus is viable and at term.

If the fetal death is recent, a matter of a few hours and the case meets the other aforementioned requirements I would consider abdominal section.

(2) Most cases of marginal placenta praevia are satisfactorily handled by rupture of the membranes, packing, or hydrostatic bags.

(3) If hospital facilities are lacking or in cases of grave emergency, the pack, the bag, the Braxton Hicks version or version without extraction.

(4) Finally, Caesarian section is the ideal method of treatment because blood loss is avoided, trauma is minimized and the danger of infection diminished, with a resultant lessened maternal and fetal mortality.

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DISCUSSION.

Dr. Gelpi (New Orleans): In analyzing statistics from an institution such as the Charity Hospital, one must be careful in deductions on account of conditions prevailing there. You have a large number of services in charge of a large number of individuals and consequently the personal equation does not come into it to a very considerable extent in gauging results. This is a point that I think should be noted in connection with this study of Dr. LeDoux's.

The indications for abdominal cesarean sections are gradually becoming narrower and narrower to such an extent that at any staff meeting, as soon as cesarean section is mentioned, you can see the ears prick up, so to speak, looking for the indications. In the case of complete placenta praevia, opinion is by no means unanimous as to the indications for abdominal cesarean section. My personal experience is certainly in favor of abdominal section but the thing isn't at all settled and at any rate there are a sufficient number of well posted men with a large experience advocating abdominal cesarean section for placenta praevia to make this stand certainly above reproach.

However, the point that I brought out originally in connection with these statistics and the point that there is no unanimity of opinion as regards the indications for abdominal cesarean for complete placenta praevia, the fact that this thing is still undecided, means that we can't be too dogmatic about it. As I have said there are a sufficient number of men well posted advocating it to make it certainly beyond reproach. Of course, in the cases of marginal placenta praevia I think abdominal cesarean section might be very seriously criticized.

Dr. LeDoux (in closing): I wish to thank Dr. Gelpi for opening the discussion. I would consider doing cesarean section in the presence of a dead fetus if the terminated gestation has been recent, namely, *a matter of a few hours*, for the reason that you are performing it for the placenta praevia and the presence of a living or dead fetus is irrelevant. Remember from the standpoint of hemorrhage you will have to deal with that placenta in the lower uterine segment for several hours.

Ross McPherson advocates, in the case of a living fetus, abdominal section on primipara and multi-

para, as serving the best interest of mother and child. He advises less drastic measures in cases in which the fetus is dead.

J. A. Willett reported the result of treatment of 254 patients at the Royal Maternity Hospital as follows:

179 cases after version or bag:
Maternal mortality just under 13%
Fetal mortality just under 81%
14 cases—Caesarean section:
Maternal mortality—1 case 7.1%
Fetal mortality—1 case 7.1%

At the same meeting Dr. Munro Kerr presented the following figures:

Queen Charlotte Maternity, 1921-22—63 cases.

Versin or bag—23 cases:
Maternal mortality 13%
Fetal mortality 60%

Caesarean section—17 cases:
Maternal mortality 0%
Fetal mortality 41%

City of London Maternity Hospital, 1920-24—52 cases:

Version or bag—34 cases:
Maternal mortality 11.7%
Fetal mortality 62%

Caesarean section—5 cases:
Maternal mortality 0%
Fetal mortality 0%

Much more could be added from European sources, in support of section in central placenta praevia, and while the majority of opinion in this country at the present writing favors the bag and version, I feel that these figures are compelling and worthy of serious consideration. It is possible to err on the side of conservation, and abdominal section has been too frequently performed for far less grave an indication than central placenta praevia.

HEADACHE.*

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Headache is always a symptom and never a diagnosis. It is perhaps the most common symptom in the practice of medicine today., In such a symposium as this, it is obviously impossible to analyze critically the whole range of headaches. It is my intent rather to discuss more generally the significance of this very common symptom as found in eye and nasal conditions.

It has long been the custom in such a discussion to make arbitrary classifications. Headaches may be divided, for example, into frontal, temporal and occipital headaches, and probably other classifications. They may be continuous, periodic and irregular. They may be mild, moderately severe, and very severe.

The history of the headache as related by the patient, is interesting oftentimes, and should be patiently listened to.

The subject of headaches is, and should be especially interesting to the eye specialist, for next to defects of vision it is the most common symptom with which he has to deal. Fifty per cent of eye patients have headaches as one of their symptoms, and this is usually the most important one.

From the ophthalmologist's point of view headaches may be divided into two groups:

1st. Those in which an ocular condition is the cause of the headache. Such are eye strain, glaucoma, iritis, and other inflammatory conditions.

2nd. Those in which the cause is not ocular, but something about the eye betrays the true cause. Thus papilledema, optic neuritis retinitis, hemorrhage, arterio sclerosis of retinal vessels, diplopia, defects of field vision, etc., often throw light on some underlying condition of which headache is a symptom.

By far the most important cause of habitual headache is eye strain. What do we mean by eye strain, and how does it cause headache? I well remember several years ago during my early years of practice, I accompanied one of my patients to an eye specialist. After examination he directed me to inform my patient that she had eye strain, and it would be necessary

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for her to have glasses for constant wear. I asked the doctor just what was being strained, and he replied the eye, the entire eye. I accepted his brief explanation temporarily, but I was not content until I learned what was being strained. The term eye strain, is a very useful one, and is used daily, not only as a matter of fact, but is a good "*get by*" word.

By eye strain, we mean the adjusting mechanism of the eye is being overtaxed. It is not the retina, or the perceiving or sensory parts of the eye that are strained in eye strain. Fatigue of a nerve of special sense such as the nerve of the retina does not produce pain. It produces diminished or altered vision. It is true this may excite the eye to renewed efforts to improve vision by straining the adjusting mechanism, and so produce strain, but the strain is not of the sensory mechanism.

The adjusting mechanisms that may be strained are two:

1st. The focusing mechanism, which secures a clear image on the retina.

2nd. The fixation mechanism which fixes the eye on the object to be looked at. If the focus of the eye varies by so much as the hundredth of an inch from the plane of the retina, then the image is not good. If the two eyes are not so turned by the external ocular muscles toward the point to be looked at, the fixation point, that the image of that point falls accurately on the macula of each eye simultaneously, there is failure of binocular single vision with distressing results.

There would be no such satisfactory vision as we have if nature had not provided suitable mechanism for doing these two things, that is, securing an exact focus of the image of the retina, and an exact coordination of the ocular movements. It is by means of the two mechanisms that one is able on the one hand to correct many of the commonest errors of refraction, and secure in spite of these errors a good image on the retina, and on the other hand to correct palpable defects of ocular muscle balance and secure binocular single vision.

The mechanism for focusing includes the lens with its elastic support,—the ciliary muscle to regulate the tension of this elastic support and so regulate the curvature of the surface of the lens; the nerve supplying the ciliary muscle, its primary center below the third ventricle, and its adjoining and interconnected groups of motor nerve cells and their nerves and muscles which are associated in the act of accommodation.

The ordinary use of the eyes for hours does not produce strain when the work is well within the limit of endurance of the mechanism. Under two conditions the limit is reached more early and strain follows:

1st. When the mechanism, one or both, have to contend with a handicap.

2nd. All conditions which reduce the endurance of the neuro-muscular system. I am sure we have all had patients consult us with the following story: "I never had the headache until after I had the flu." Usually this headache has two causative factors, namely: a lowered neuro-muscle system and an error of refraction. So long as the neuro-muscular system is normal, or apparently so, the error of refraction does not manifest itself; however, when the two conditions exist simultaneously, pain must necessarily result.

Can we determine definitely whether a headache is ocular?

Ocular headaches are usually frontal, but not necessarily so. It has been said that pain from the focusing mechanism is frontal and when due to fixation strain it is occipital or cervical.

We can determine rather definitely whether or not the headache has its origin in the eye by instituting the following treatment:

1st. Stop, or reduce work.

2nd. Build up endurance.

3rd. Correct errors of refraction by glasses.

Next in importance to the headaches of ocular origin, are headaches having as their causative factor, nasal diseases and deformities and nasal accessory sinus inflections, acute and chronic. For convenience of study these conditions may be grouped under four headings:

1st. Acute nasal, or nasal accessory sinus infection.

2nd. Chronic nasal, or nasal accessory sinus infections.

3rd. Anatomic variations which cause pressure contact. Namely: Deviations of the septum. Septal spurs and enlarged turbinates.

4th. New growths of nose and accessory sinuses.

The pain in these conditions may be explained on the basis of pressure of swollen tissue upon sensory nerves or their terminations. When a sinus is filled with secretion and inflammatory exudate under pressure, the drainage being blocked, the cause of pain is easy to explain, but the occurrence of pain in many cases does not appear to be dependent upon the presence of pus under pressure and is attributed to the involvement of the nerves or their terminations in the inflammatory processes within the walls of the sinus cavities.

The pain of an acute sinusitis is often very severe, and is aggravated by bodily exertion, and especially the stooping posture. In a typical case the pain begins each day as a dull ache at or shortly after rising, and gradually increases in severity until it reaches its maximum intensity about noon, after which it gradually subsides and the patient is more comfortable during the evening hours. The pain is usually more severe each day until the peak has been reached, after which there is a gradual subsidence until finally the pain ceases altogether. All cases do not run this beautiful course, but have constant pain; however, these patients usually suffer more during the day than night.

There are no symptoms by which we can determine definitely which sinus is causing the pain; however, when we do find pain referred to certain localized areas it is suggestive. The pain in acute frontal sinusitis is located in and about the eye and frontal regions. There is tenderness of pressure of the floor of the sinus, above and behind the inner canthus.

In acute maxillary sinusitis the pain is referred to the upper jaw teeth, cheek, and often to the eye and frontal region as well.

In post ethmoid and sphenoid, the pain may be referred to any of the areas of distribution of the nasal ganglion; however, I believe it is most intense back of the eye, and may extend also to the occiput.

The diagnosis of acute sinusitis, is usually not a difficult task. The chronic forms, however, are not so characteristic, and often present no definite symptoms whereby a diagnosis can be made. It is often necessary to apply all the methods of examination at our command, namely: careful rhinoscopic examination after shrinkage with cocaine and adrenlin, endoscopy, trans-illumination, X-ray investigation, and lastly, the effect of cocainization of the sphenoid recess and sphenoid sinus. It must be remembered that pain due to a lesion within the sphenoid sinus is not affected by cocainization of the ganglion, but may be relieved by anesthetization of the sphenoid cavity itself. If this so called therapeutic test is positive, surgical interference may be attempted with some assurance of success.

Another group of cases in which the nasal origin of headaches is present, is comprised of those in which may be found evidence of anatomic variations in the nose,

which result in pressure contact between the inner and outer walls. Such contacts are due to deviations and thickening of the nasal septum. Enlarged and cystic turbinates and polypoid growths are often found. These cause a blocking of the natural drainage of the sinuses and we may find as a result an infection of the sinuses or the results of blocking may be a vacuum, which causes variable pain and often intense pain.

After careful study of headaches from an ocular and nasal point of view, I would like to present for your consideration the following conclusions:

1st. Since headaches are more often due to the eyes than anything else, the eyes should have a careful study in every case of repeated headache.

2nd. Eye strain is very common in eyes with extra good vision. Therefore, the presence of good vision is no ground for thinking that a given cause of headache is not ocular in origin.

3rd. The severity of the headache does not depend on the magnitude of the refractive error. Even very low errors sometimes cause considerable pain and discomfort. Where any error is found, nothing short of the harmless therapeutic test, namely: the wearing of glasses is conclusive. Often times this is only one cause which acts jointly with other causes. Its correction may be sufficient to effect a cure.

4th. No search for the cause of headache is complete until a thorough intranasal examination has been made.

DISCUSSION.

Dr. R. C. Lynch: There is one point I would like to bring out in headaches caused from spenoidal infection. Dr. Earl Brown of New Orleans has brought out the point that he finds a concentric contraction of the field of vision in practically all of these cases. Opening of the sphenoid seems to clear up not only the contracted field of vision but the headaches as well.

Dr. P. W. Rowland (University): I hope I may be pardoned for rising. I make no pretense to specialism in either eye, ear, nose or throat, but as an internist (who by the way, is the highest type of specialist) I might impose myself on your good nature for a few minutes. And, in addition, since Doctor Guyton, who is a fellow townsman and colleague, and who was to discuss another paper, is not present, I thought I might take five minutes of your time in discussing this paper:

I rise, too, because headaches, to me, is a very important matter, since I have been a victim for a number of years; and for the additional reason that, what might have been a serene, amiable and lovable disposition, has, I fear, been spoiled by this abomination. Headache is a hydra-headed monster, and makes its attack from many angles, and while I know that very many of them are cured by you gentlemen, through correcting errors of refraction, and by attention to sinus infection, I want to know what you do with migraine patients. I take it that most of you gentlemen have, at some time in your professional life, been practitioners, and that you have had occasion to handle many of these obscure headaches. Now, although a victim, I am not making an appeal for sympathy, because I have long since come to the conclusion that in these sufferers, if they are to get along at all, with at least a moderate degree of comfort and success, the cure must be worked out by themselves. Nobody knows anything about this particular type of headache, "migraine." I don't know anything about it myself, except symptomatically, but I have theorized. I have attempted to find an explanation for it in a disturbance of the sympathetic system, the basis of it being infection somewhere. I feel sure that the vast majority of migraines arise from biliary infection. The symptoms are not manifested in the ordinary reactions to gall-bladder infection, such as backache, pain under the right scapula, jaundice, fever and etc.—just simply a headache. Doctor Shea struck the key note in his splendid explanation of some types of vertigo, when he said the infectious agent has a special affinity, for the eighth nerve. It also has a special affinity, at times, for the pain perception centers in the brain. This infectious agent manifests itself in cycles. The headache is an explosion, a liberation of toxins in the blood stream, after a period of quiescence, somewhat after the manner of the plasmodium of malaria.

There is another condition you will find worthy of note. There is a disturbance of the heat mechanism in the brain, manifesting itself, particularly, in a disturbance of the heat dissipating centers. You will find the axillary temperature generally below normal, say one or two degrees, while the rectal temperature remains normal. I don't know what relation this has to the conduction of pain stimuli to the brain, but I call your

attention to this fact. There is a contraction of the superficial blood vessels, without a corresponding contraction of the vessels of the splanchnic area, and the resulting headache is a simple hyperemia. Relief is brought about principally through restoration of the surface heat, and elimination through the intestinal tract by means of quickly acting purgatives. As to the treatment of these migraines I want to say this. The fewer drugs the better. The relief of periodic attacks of pain by the use of depressing drugs is harmful in the long run. Normal resistance is impaired and a vicious circle is built up, in the end bringing the patient to chronic invalidism.

The only treatment worth while, in my judgment, is one of sound advice as to habits of diet, exercise, etc.; a training in building body resistance; educating the patient, so to speak, to look upon his affliction as one to be overcome by training oneself to endure. Immediate relief is necessary at times, but the main effort of the physician should be expended in the physical and spiritual training of his patient. I thank you gentlemen for permitting me to say this much.

Dr. E. H. Jones: Mr. Chairman: I have enjoyed the doctor's paper very much, and I admire anyone who will tackle the big subject of "headaches" in one paper. One thing he didn't mention that I think of the utmost importance is, that all eye, ear, nose and throat men should be good diagnosticians. Medicine is getting to the point of specialization that we have a great many patients come to us and say, "I have a headache and I want to find out what is wrong." It is this particular type of case we frequently see before the general practitioner. And there are many considerations he didn't go into, and I cannot go into, that we must be capable of diagnosing before we know it is in our realm.

After going into the history and seeing the patient is all right physically, he has suggested eye examination, in which I agree with him. He don't use the prisms, and I think he wisely does not. I had the privilege of seeing one well known man work a good deal who used a great many prisms, most of which later had to be taken off.

Now, there is one other statement here, that after the flu he found a great many patients with eye trouble. I believe flu always infects, as well as affects, the sinuses, and I rather question that that was due to eye strain alone. I think that very probably his trouble was in the nasal accessory sinuses. And there is one point I find will guide me a great deal, and that is, the tenderness at Ewing's point, where the trochea is attached. You will have an infection of the frontal sinus causing a tenderness of the bone, and the pulling of this muscle, especially in looking down to read, on that tender bone will frequently cause a headache that is not noticed until about fifteen minutes after the patient has started to reading.

Also, after the flu you sometimes have a frontal headache, which, Dr. Shea has pointed out, is due to the involvement of the sphenoid. I heard him say he frequently found them occipital. I think he referred to the post-mastoid. This point was ably described by Sluder. As he mentioned there, the cocainization of the nasal ganglion does not relieve pain caused by infection of the sphenoid sinus. There is another symptom that Skillern described, which I have found present. I never noticed it until I read Skillern's paper. A patient may have frontal pain caused by infection of the maxillary sinus. It seemed strange to me at the time, but I remembered it to be true.

The most important part he brought out is getting the history, and in getting into the history the important points, which the patient usually can't tell you the first time; that is, if they have had a long period of headaches. You go to asking them for the definitely localized pain, for the duration, and the intensity, they usually can't answer any of those questions specifically. When you get a good history, it helps you a great deal. I enjoyed the doctor's paper.

Dr. L. S. Gaudet: I enjoyed Dr. Buchanan's paper very much. In his conclusion, he brought out a very definite point: That all cases of perfect vision are not grounds for thinking you don't have any eye strain; and that is well to be remembered. I have had a great deal of work to do in connection with the Red Cross work, and I have had so many children referred to the office that would give you a vision of 20/15. I never took that for anything at all. Reading a chart at a distance of twenty feet and giving you a vision of 20/15 means nothing in those cases. I have always made a habit of using a mydriatic. In many cases you will find that will give you a vision of 20/100 in cases of eye strain. I think that is a very important point. And I think doctors oftentimes are misled by nurses and other people interested in child welfare in your school work, and we ought not to take those things for granted; we ought to go over those cases and do it with a mydriatic in every case.

Dr. D. C. Montgomery: Dr. Buchanan did not describe the headache that the doctor sometimes finds, particularly the one he had just recently and about which he was talking to us, describing a case of tonsil hemorrhage rather severe in character, and which occasioned a rather severe headaches. He told us after working with it for two or three hours he finally told his patient, an

old lady, "Prepare to meet your Maker; I can't do anything for you." In his conclusion, perhaps he will tell us what kind of headache, or cause of headache, she had.

There is a type of headache better explained as neck pain, the back part of the neck and shoulders, so often occurs because of a post-ethmoid infection, without pus, and due to hyperplastic condition. In the past that has puzzled me. I think in most instances it is due to a hyperplastic condition of the post-ethmoid.

Dr. E. L. Posey: I want to add a word to what Dr. Gaudet has said, in the use of mydriatics in eye strain. I don't know how you gentlemen find things in your cities, but here in Jackson we see folks who have been fitted by optometrists, with no relief, and are wearing lenses that are in no sense suited; with folks who have been refracted with no relief it is my rule to use the mydriatic in their eyes. I use mydriatics in these cases, as well as all others, under 40 years, and in the majority of cases am able to give the patients glasses that give relief. So often I find in my work muscular involvement largely responsible for headaches. Dr. Jones says he doesn't use the prisms, but in such cases I find them absolutely necessary and the only thing that will relieve the headache in these cases after the error of refraction has been corrected. I find the use of a mydriatic very helpful; in fact, I use it altogether in patients under forty years of age.

Dr. Stevens: I was impressed by one thing that the doctor said there, and which Dr. Bryan said last night—to find out what is the matter with the patient, and then find out what else is the matter.

I really believe in a great many cases the importance of eye strain as a cause of headache is exaggerated. Take a majority of the people that are healthy, every organ functioning properly, their muscles vigorous, and their nervous system stable, they can have error of refraction and never pay any attention to it. I would not minimize the importance of correcting these errors if you find one; but it is also a good idea to look further.

I had a patient recently who had been complaining of headaches for a year. I found that she had hyperopia and astigmatism, which I thought was enough to account for the headache; but looking into the nose I found a deviated septum in contact with the middle turbinate; sinuses clear; the tonsils were submerged, red and spongy, and there was a history of lumbago. I advised the fitting of glasses first, and if that didn't give relief, operation on the nose; and advised removal of the tonsils anyhow. For some reason or other, these people were very prejudiced against wearing glasses; they decide they would rather have the operative work done, and try to avoid wearing glasses. I told them I would remove the tonsils, and in two weeks do a nasal operation. I removed the tonsils, and she has never had another headache. So, you can't always tell when you find refractive error, whether that is the cause of the headache or not. As I said, the exaggeration of the importance of eye strain as a cause of headache is noticed in the patient. I have had people come to me suffering with headache sometimes less than twenty-four hours and want their eyes refracted. Patients fifty and sixty years old, who never had headache in their life, insist if they had proper glasses they would be relieved, and you can hardly make them believe they were something more serious.

Dr. C. C. Buchanan (closing): Mr. Chairman and Gentlemen: I certainly appreciate and have enjoyed this most liberal discussion. It would probably be possible to classify very scientifically and minutely the various causes of headaches, if we could find someone who could give the time, attention and study to it. The causes are so numerous that in a short paper we can only take up one limited side of it.

In reply to Dr. Montgomery about that peculiar kind of headache, I would like to say that that is an indescribable headache; I do not believe any man possesses a vocabulary that is sufficient to describe minutely the headache the doctor has when his sixty-five year old lady patient with high blood pressure, is bleeding. In this particular case I was describing to him, I didn't tell her, but I rather intimated to the Lord that it was up to him and that old lady to pull her out.

In reply to Dr. Rowland, he asked the definite question: What do you do with these cases of migraine? I will tell you what I do, and I believe you do about the same thing—I send them to a doctor somewhere if the cause is not found in my line; if I do not find sufficient evidence in the eye, ear, nose or throat, it is a mighty good class of cases to get off of your hands, I have found, and I direct these patients to go from whence they came.

Dr. Posey brought out a very important point there; I was glad to hear him mention it. I didn't mention it because I was afraid I would get in trouble about it. That was the question of the prisms. We have a mighty well organized crowd to fight, namely, the optometrists. I do not offend the optometrist. A patient comes to me who has been to the optometrist, I say the optometrist did the best he could, but it is necessary to treat these eyes with drugs, and often-

times you do use atropin and they get better. I don't fight the optometrists.

This is a big subject, and I would like to hear it discussed again by some doctor who is more capable than I am, and hear some more important points brought out, because it is the biggest subject we have in Mississippi today. I certainly appreciate the discussion that has been brought out here.

SOME PSYCHOLOGICAL ASPECTS OF THE SENILE PSYCHOSES.

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With the advent of middle age the peak of mental capacity has usually been reached. From this time changes take place which mark the beginning of the descent into the valley of the shadow of death. Frequently the peak is reached somewhat later and the descent is slow, the mental faculties being well preserved long after the age which has been set as the beginning of the senium, namely sixty years. On the other hand premature senility occurs occasionally before the age of sixty has been reached. In middle life we may look for arterio-sclerotic disease to begin; and near this time the menopause and its equivalent in the male may prepare the stage for the setting which we know as involutional melancholia. Early evidence of senility already alluded to may be accompanied by Alzheimer's disease; and, finally, at or after sixty, the acknowledged senile psychoses may appear, eventuating in profound dementia.

All of these conditions, then, may be considered as depending amongst other things, on the beginning or advance of old age. While potentially demonstrable changes in the brain, in the endocrine glands, and in metabolic processes may be the conjectural, or certain basis for the development of psychoses at the different periods named, something else must cooperate to bring about the different forms of mental aberration. One of these doubtless, is what has gone before: what he has been by inheritance, by environment, and by habits of thought. It is this which constitutes the psychological aspect of the senile psychoses. If we knew that psychotic manifestations were entirely dependent on the tissue changes incident to advancing age, there would be no psychological problem involved; all seniles would present similar mental symptomatology according to the physical changes which had taken place. As a matter of fact we see diverse manifestations and these have been approximately grouped for descriptive purposes in various sub-types.

It may be reasonably supposed as age advances that there is a different outlook for the psyche. The certainty of the final tragedy leads to introspection and review of the life that has gone before. Interest in the immediate present is lessened, hence attention disorders occur, and thus memory for recent things seems to be impaired, as no impression of passing events is being made upon the mind. Many relatives and dear friends have passed away, familiar neighborhoods have outgrown their former characteristics, and the memories of these are cherished, and new acquaintances and localities cannot take their place. Remembrances of the days of yore, when these were intimate associations, lead to the *appearance* of a better memory for past events than for the nearer in point of time. The lack of interest in the present environment, whereby impressions on the sensorium are feeble, accounts for impairment of retention (forgetfulness). And so arise likewise, self-centering of interests and absence of an attempt to concentrate on present day problems and sometimes accompanying depressions. All of these are fairly common out-croppings of the senile period. When unduly prominent these may attain the dignity of an actual psychosis, placing the individual, as happens frequently, out of contact with reality.

Irritability, stubborn opposition, boastfulness (as expressed in reminiscence of erstwhile performances) and the tendency to fill in the gaps of a failing memory by fabrications, are distinctly psychotic symptoms, as is the appearance of paranoid trends. There are many individuals who in early life had the precox or shut-in make up, suspicions of the intentions of others, leading them to feel that they were being persecuted, but who escaped that form of psychosis (dementia praecox) until the senile changes had biased the critique and put the inhibitory censors of the mind out of commission. These develop definite paranoid trends along with other evidences that the mental processes have become senile. Their habits of thought, never before reaching full expression, now dominate the psyche. Introspection and egocentric interests in extreme cases get some so far away from reality that they are disoriented for time, place, and person: and their memory, even for remote events, the things which interest the subject most, is not measured by the lapse of years but by its prominence in the content of thought, and being thus seemingly near, leads to most ridiculous mistakes in time relations. A person of seventy speaks of parents and even of grand parents as if still vigorous in life. Restlessness, especially at night, is often in evidence, which along with retention and memory defects, may make the individual dangerous to himself or others, in such ways as falling down the stairs in the dark, turning on unlighted gas, etc. Lack of ability to exercise physically and to digest normally, may account for this condition partly, and to such an extent it may be said to be a reaction to somatic conditions; but disagreeable thoughts which come in the silence of the night, play no unimportant part in making them get up and wander about and get into mischief.

The pre-senile type described by Alzheimer and known as Alzheimer's disease, is characterized by early ageing of the individual, physically and mentally, with special prominence of failure on the physical side, and is not so rich in psychological features. It may commence in the forties or even in the thirties, and terminates in early dementia, and death.

These psychotic manifestations, except Alzheimer's disease, are very gradual in development. In any of them, especially the paranoid and confused types, misinterpretations and lack of judgment may pave the way for auditory hallucinations, or more rarely, the seeing of visions.

In simple deterioration there is a gradual failure of memory and interests, and separation from present day affairs *pari passu* with physical enfeeblement and deteriorating changes in the brain, capable of detection under the microscope.

For convenience of classification the following types are recognized, but it must be remembered that symptoms often over lap:

(a) Simple deterioration: gradual failing of the powers of life including the mind, usually with suspicions, irritability and restlessness, especially at night.

(b) Presbyophrenic: where in addition, an attempt is made to cover up confusion and memory defects by fabrication.

(c) Delirious and confused type: which, having in mind what has been said about the other types, describes itself.

(d) Depressed and agitated: probably the outcropping of a cyclothymic make-up, which escaped being a mixed manic in earlier life by non-severity of symptoms.

(e) Paranoid type: already accounted for.

(f) The pre-senile type of Alzheimer.

Other psychotic manifestations than those mentioned may appear, depending on the make-up or inheritance of the individual, or on other causes. Most of them represent an unconscious attempt to escape

from reality and substitute methods of thought more agreeable to the individual,—often having the objective appearance of extreme selfishness.

That the chief etiological factors in these cases have not been mentioned is not because of their unimportance but because the anatomical changes are not of special psychological interest. Briefly, senile plaques in or near the cortex, known as Fisher's plaques, small and large wedge shaped softenings, some arterio-sclerosis; widening of the sulci and atrophy of the convolutions of the brain, with dilatation of the ventricles are prominent features often observed and are obviously responsible for much of the reduction in mental capacity which sooner or later ensues. *Prognosis* is necessarily unfavorable, and treatment is symptomatic and expectant. Intercurrent disease ends the scene in many of the cases.

TRACHOMA.*

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While trachoma is by no means one of our most common eye diseases, yet on account of the serious and permanent results caused by it, it is one of our most important eye diseases.

ETIOLOGY.

The etiology of trachoma is still so uncertain that there is no need to consider it in such a limited paper, but it is generally judged to be communicable by the transfer of morbid material from eye to eye. We usually associate trachoma with the poorer classes and think of it as a disease of filth and dirt, nevertheless cases are found among all classes. Crowded living and poor hygienic surroundings are important factors and lately some have advanced the idea that it is a nutritional disease rather than an infection.

*Read before the Mississippi State Medical Association, Jackson, May 12-14, 1926.

PATHOLOGY.

Briefly, the pathology may be described as a subepithelial proliferation of lymphoid tissue followed by cicatricial changes in the conjunctiva.

Clinically trachoma has been divided into many forms, and while no hard and fast lines can be drawn, most cases can be classed under one of the following: (1) Acute trachoma with swollen lids, profuse purulent discharge and trachoma granulations. In fact, aside from the granulations, the appearance is much the same as any acute purulent conjunctivitis. (2) Chronic inflammatory trachoma with more or less variable inflammatory symptoms, often with intermissions and exacerbations, always leading to cicatricial changes. (3) Chronic non-inflammatory trachoma with more or less granulations, usually confined to the palpable and retrotarsal conjunctiva of the upper lid.

The more common complications and sequelae are pannus, ulcer of the cornea, trichiasis, entropion, ectropion and corneal opacities.

DIAGNOSIS.

In a typical case the diagnosis does not present much difficulty, but there are border line cases which are often puzzling. Probably follicular conjunctivitis is most confusing, but is usually differentiated by the small pale granules confined to the fornices, and the lack of cicatricial changes.

TREATMENT.

Probably in no disease has such a variety of remedies been used, a sure indication that no perfect remedy has been found. The principle of the medical treatment has been to use astringents of such strength as to cause absorption of the granulations without the remedy itself causing cicatricial changes. The more common ones used are silver nitrate, 1 to 2%; bichlorid of mercury, 1-500 to 1-10,000; copper sulphate; cyanid of mercury, 1-2000; and more recently subconjunctival injections of 1%

copper sulphate with 4% procain. The main objection to the medical treatment is that it is a prolonged and painful procedure, making it difficult and often impossible to keep the patient under control long enough to clear up the disease. In the last few years the tendency seems to be more to treat trachoma surgically with medical treatment as an adjunct. The opinion seems to be well divided with either expression or grattage as the choice operation in the ordinary case.

DISCUSSION.

Dr. Stevens: Mr. Chairman: In my personal experience, about the most noticeable thing in trachoma is—it usually turns out to be something else. It may be that in my locality it is different, but I find it to be a very rare disease. I have probably seen three or four times as many cases of vernal conjunctivitis as of trachoma. In the cases I have seen, I have been impressed with the fact that they are very hard to cure, and almost certain to have complications at some stage. Most of the supposed cases, as I said, that I have kept under observation for a considerable length of time, have proven to have another diagnosis.

There is one little thing in the treatment—of course, it may have been purely a coincidence and I would like to hear from somebody else who has heard about it, or had experience along that line. I had a genuine case of trachoma a few years ago in a fellow who contracted syphilis during the time I had him under treatment. I treated him for about two years, and finally he appeared to be cured. A few times he missed treatment two or three weeks, and every time the trachoma would be worse. But two or three times during that period he took a vacation and went to Hot Springs and took extensive mercurial rubs while there, and when he returned his trachoma was better than when he left, without any local treatment whatever. I don't know whether that was purely a coincidence or not.

Dr. E. L. Wilkins: I am very much like Dr. Stevens; I haven't seen much trachoma since I have been in the Mississippi Delta. I did see quite a bit of it in Tennessee before the war. A few weeks ago I found that the government was holding a trachoma clinic at Kenneth, Missouri, for three days, and went up one day to attend this trachoma clinic. They have a man putting in all his time, and quite a good deal of equipment, and they are studying trachoma; have two hospitals in that section, one at Fayetteville, Arkansas, and the other one at—I forget the name of the town in Missouri. I saw some wonderful work there that day, and it was very, very interesting. He raised the question with me, knowing I was from the Delta, as to how many cases I ever saw, or if I ever saw a case in the negro—the doctor mentioned that it was in all classes, and I have never, that I can remember, and have no record of seeing a case in a negro. The lower class, as he said, are the ones where it is usually found, where their nutrition and hygienic and sanitary surroundings are not so good; yet, the surroundings of our negroes would tend to show that that is not the only prerequisite for trachoma.

Their method of treating, he used scarifying method—turning the lids and cleaning them with gauze on his finger, flushed them with bichlorid solution 1-2000. His after treatment was 15 per cent argyrol for about one week following this; then he used the zinc sulphate sol., one grain of sulphate of zinc and fifteen grains of boric acid. After he had gotten a great deal of scar-tissue, he didn't remove the tarsus; he took out a crescentric section of the upper lid with a slit through the tarsus, and when he made this slit through the tarsus, he made his suture from the upper margin of this slit and catching the outer edge of the tarsus turned out the lid from there, without any reference to the lower edge of slit in tarsus. He broke them in this way and pulled it out. He was doing a great deal of work up there. We saw quite a number of operative cases and treatment cases. He was very careful in the diagnosis of his cases, showing that he found it a very very hard job in diagnosing an incipient trachoma. His general rule was that if he was in doubt he would put them on the zinc sulphate solution and tell them to come back. He had been studying nothing but trachoma in the Public Health Service for twelve years.

Dr. James B. Stanford: It has been my experience with the diagnosis of trachoma that it is not particularly difficult, except in cases of acute trachoma. In acute trachoma the diagnosis is practically by elimination; you can't determine anything else but trachoma. The public health men—I question a lot of their reputed cures of trachoma, or rather, I question the diagnosis in these cases of rapid cures.

Trachoma is a mysterious sort of disease. I have a case of it at present and there is not another case of trachoma in the man's town, and so far as he knows, there is not another case in the county, and he has never seen another case of trachoma, except when he has gone to some city for treatment. Certainly it is more prevalent in some sections than in others. Doubtless, less than one per cent of my practice comes from southeast

Missouri, yet about fifty per cent of my trachoma comes from there, and why it should be so particularly prevalent there, I don't know. The medical treatment of trachoma is necessary. Of course, the treatment of trachoma varies largely with the condition of the particular case—in what stage the disease is manifested. The surgical procedure adopted depends largely on the amount of scar tissue, etc. But none of those cases will get well without a rather extended period of medical treatment after the operation, regardless of what the operation is. I have never heard of any association of syphilis with trachoma. This must have been a co-incidence in Dr. Steven's case.

Dr. H. L. Arnold (closing): Mr. Chairman: In regard to the case that Dr. Stevens mentioned that the recovery improved under the syphilitic treatment, I don't see much trachoma; I see very few cases; but I did have a case some time ago which was an old case with some corneal opacities. It fell into the hands of someone who made a diagnosis of interstitial keratitis, and they gave a very vigorous treatment. I don't know how much mercury they gave, but they had given eighteen injections of salvarsan, and the patient said he didn't see any change in the eyes, so that I doubt if there is any connection between the two; certainly there wasn't in this case. Doctor Wilkins mentioned about the negroes. I have never seen a case of trachoma in a negro, but Dr. DeSchweinitz says he sees quite a few in Philadelphia. They have quite a large negro population in Philadelphia, and I know in the hospitals there they see quite a great many negroes. Now, whether it is due to the dwelling conditions there, because the negroes are rather crowded there, and they live under pretty poor conditions or not, I do not know—but I have never seen a case in a negro.

THE ROENTGENOLOGIST AND THE HOSPITAL.*

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It is with mixed pleasure and hesitation that I have accepted the invitation to come to New Orleans to give the address of dedication of the newly finished and enlarged roentgen department of the Touro Infirmary: a pleasure at the thought that I was considered worthy of the dignity implied, and hesitation at realizing how far short I would probably fall from the expectations of the committee. My long and intense interest in the development of roentgenology, extending over most of my professional life, urges me always to wish to participate in every gesture which tends to elevate roentgenology to the high plane now assured it among the other specialties in medicine.

Tonight we are assisting, as it were, at the formal inauguration of a partnership, in which all of us have more or less interest. You, who are here as a part of the staff of this institution which will profit directly, can do most to assure a suitable foundation for this union of effort; we, on the outside looking in can only wish you well, and this we do most heartily.

This occasion offers an irresistible opportunity for retrospect, a brief review of some of our present opportunities and obligations, and some sort of effort to lift the curtain of the future of the branch of medical science which has already been recognized as the chief of the mechanical aids to medical diagnosis.

Roentgenology began in the physics laboratory, was taken up by photographers, gradually falling then into the hands of medical men with more or less genius for things mechanical, and has now reached a plane where no one can achieve recognition as a roentgenologist who has not had a complete medical education in a recognized medical school. It is very interesting that the man who made the discovery of the X-ray possible, Sir William Crookes, had no university education, nor did he hold a professorship. He was not a linguist. He did valiant service in the fights against cattle plague and cholera when these pests were raging in England. His biographer says that he studied disinfectants and water supply and sewage disposal, leaving a mark on his generation in the shape of a substantial reduction of the death-rate;

*Given at the opening of the new X-ray Department of the Touro Infirmary, New Orleans, Louisiana, April 27, 1926.

that he threw his whole weight into the development of the photographic art, devised new processes, invented new apparatus, and applied the art to the investigation and recording of scientific phenomena. Later, continues the biographer, "came that wonderful chapter of researches in high vacua, leading to 'radiant matter,' the radiometer, and the 'Crookes tube,' which incidentally solved the problem of electric lighting, and is now universally represented by the electric lamp" found in almost every home. For the benefits of the branch of medical science which we call "Roentgenology," in honor of the discoverer of the magic rays, we owe to Sir William Crookes much more than is generally realized.

And while speaking of Crookes, I wonder how many of us could fail to admire the high standard he set for himself as a guide in his scientific work. In a letter to one of his closest friends, he penned the words: "Have I not ground and winnowed and sifted evidence to such a degree that along with the bad I have thrown away much of the good because it was not good enough, and only held firm to the small residuum of absolute truth?"

It would be unseemly for me here to undertake a eulogy of Roentgen who was lucky enough to achieve the honor of discovering the rays which for twenty years had been emitted from the Crookes tube. Prof. Rudolph Matas has told this enchanting story to you tonight, as well as in the introduction of one of the volumes of the Annals of Roentgenology, contributed by our New Orleans colleague, Dr. Isidore Cohn.

Today the roentgen department stands without doubt as the most valuable of all the laboratory aids to diagnosis. No less an authority than Dr. Richard Cabot has recently declared that he had received more help from the roentgen laboratory than from all the other diagnostic departments combined. Whether or not he is approximately correct, it cannot be gainsaid that the application of the roentgen rays to diagnosis has constituted one of the greatest aids to surgery since the days of Lister, and we have not yet reached the full development of its usefulness in internal medicine.

The history of the roentgen department of the average long-established hospital is more or less the same through the United States. It began in one small room, usually the same room in which the photographic work of the hospital was performed, and the work was usually combined with the photographic work. Even today I can point to several well known hospitals where the photographic work is delegated to the X-ray department, for no other good reason than that the latter is equipped with a photographic dark room. The location of this department was usually in some out of the way corner of the hospital too damp or too dark for any other use. Such a conception of the place of the X-ray department has not yet altogether disappeared from the minds of some hospital governing boards, and even yet there are hospitals with the one or two small rooms devoted to roentgenology crowded to the bursting point with the numerous pieces of apparatus which have accumulated during the years. A hospital of four hundred beds needs at least 2,000 to 3,000 square feet, including treatment rooms, roentgenographic and fluoroscopic rooms, office, film loading and developing rooms, film consulting rooms, filing room, lavatories, waiting room, and a room for mechanical developments. University and teaching hospitals need more space for the provision of the necessary equipment for teaching purposes.

It is quite unnecessary to say that no amount of luxurious equipment will make up for the lack of a competent physician-roentgenologist, or that the roentgenologist cannot render a full measure of usefulness to the staff without adequate facilities and help.

It is manifestly impossible to permit or expect anyone but a physician to undertake the interpretations of the roentgen-ray findings with any hope of transmitting to the clinician all the help which the department is capable of giving. There have been some notable exceptions to this statement, but they have numbered very few indeed; and with the ever widening field of roentgen-ray application, the usefulness of any one but a graduate physician for roentgen-ray interpretation is steadily decreasing.

It is interesting to contemplate the manner of development of roentgenologists. In the very beginnings of the X-ray, the work was undertaken by any individual with a curiosity for science or mechanical genius who could possess an X-ray apparatus, be he layman or physician. Out of the first group of X-ray users, developed the first generation of roentgenologists, and we owe to them a great debt of gratitude for their unselfish devotion to the development of the science for which so many of them paid dearly with pain, suffering, crippling, and even life. Few of this generation remain unmarked if they are still alive.

Those coming on later, like myself, had the great privilege of learning first hand of the details of the work as far as it had been developed by being freely received in the different centers of X-ray work by these pioneers who did not stint themselves in giving forth of the knowledge and experience which they had acquired. I, personally, shall always feel it my bounden duty to do my utmost to impart to those seeking it, all possible of use out of my own experience, as a means of partial payment for the help given me by the pioneers with whom it was my privilege to come in close contact.

In England a further step has been taken, through the sympathetic assistance of the Universities of Cambridge and of Liverpool, for there has been established a definite course leading to a special diploma of efficiency in medical radiology and electrology, without which it is now practically impossible to obtain a worth-while appointment as a roentgenologist in England. In the United States, the education of the roentgenologist has not been developed so satisfactorily. The universities, bound together by agreement, will not give anything less than a degree of master of science in radiology, and rare indeed is the man who will take the time necessary to procure this master's degree. There are few institutions which offer courses leading to such an attainment; there are numerous other teaching centers which offer fellowships in roentgenology, but they are not nearly sufficient to meet the demand. A considerable number of those who seek special instruction in X-ray work content themselves with a two weeks' course of instruction obtainable in some post-graduate organization, and a few weeks spent in looking over the shoulder of the roentgenologist in this, that and the other hospital, after which they purchase equipment and bloom out as roentgenologists. And small blame to them after all, for it is very difficult in the United States to do otherwise. The amount of teaching in roentgenology in the undergraduate medical schools is next to nothing; the courses in the graduate school are very unsatisfactory, lacking in uniformity, and are given to men without essential preliminary grounding in basic principles of physics necessary for adequate grasp of the subject. Really the most easily accessible font of information in technical roentgenology today is the commercial salesman whose greatest interest consists in the distribution of roentgen equipment.

Poor roentgenologists are in most instances the product of circumstances: insufficient time is allowed for training; men start in with practical work without the necessary fundamental basic training; the work of instruction is casual as regards both time and place; and so many physicians with inadequate training in medicine

or surgery are allowed to take up the specialty of roentgenology.

Owing to the lack of proper instruction facilities in this country, a condition which was infinitely farther from solution a decade and a half ago than now, the average roengenologist of note is a self-made man in regard to his X-ray work,—a self-educated man, if you please. In some instances it was doubtless providential for the man that he had the advantage of association with broad-minded colleagues, or of coming up in a large institution, for few incapable men can survive the demands of a large medical center. In other institutions, the hospital failed to expand with the man who sought more fertile fields of endeavor or went into private work.

The technical work of the roentgen department, including the production of the roentgenograms and the setting in operation of the fluoroscope, is but the preparation for the real medical work of the department, its heal *raison d'etre*: namely, the interpretation of the findings. The work of interpretation constitutes real medical roentgenology, and it must be done by a physician. The better the technical work, the richer will be the roentgen-ray findings in information for the medical roentgenologist to interpret. The more thorough his training, the richer his clinical experience, the fuller his devotion to his work, the more will the medical roentgenologist see in the film and screen records of the case. Some do the fluoroscopic examinations in a perfunctory manner, because they obtain from them little help; but the enthusiastic, well trained, experienced clinical roentgenologist will find in the screen study of his patient a veritable mine of information and his ingenuity will constantly show him ways to reach out into yet unexplored fields. The fundamental condition for the reliability of a roentgenological report depends upon the answer to the question, "Who made the interpretation?"

The average physician of today is not yet well fitted to undertake roentgenological interpretation. This may be said even of many men into whose hands the roentgenologic interpretation is at present confided; and this is a fact for the reason set forth in previous paragraphs. If the roentgen rays are to be utilized to the fullest degree, the roentgen-ray interpretation must be done by a physician who has had special training. The gynecologist, for example, in making a bimanual examination of the pelvic organs, visualizes in his mind's eye what he feels with his fingers; mentally he pictures in flesh and blood the mass which may consist of ovary, tube, fibroid, cyst, etc. In a similar way, the roentgenologist-interpreter must visualize in flesh and blood what he sees in shadow—not a crater, a filling defect, a displacement, an enlargement, a contraction, a thickening, a light or a shadow, but the actual lesions. In his mind he must *see* clearly the ulcer, the cancer, the tumor, the stricture, the cavity. This ability comes only from experience by one with a prepared, receptive mind, and is relatively impossible without a basis of experience in pathology or surgery.

Just here it seems opportune to refer to a growing tendency in some hospitals to treat the roentgen department as a sort of photographic *triage* center, a sort of sorting station, where patients are sent to be photographed after which the resulting concrete records of the examination are asked to be sent to this or that ward or this or that office, where the original referring physician or surgeon makes his own readings and seems perfectly willing to assume the full responsibility for the diagnosis. This began long ago in regard to roentgenograms of fractures and dislocations, and often times with foreign bodies, and has come to be considered in many quarters as the perfectly proper thing for the orthopedic department; but we should recognize it as the beginning of a new departure and we should look well ahead to

see whither it leads. Does it mean that the chest films are to be sent to the chest department, the gastro-intestinal films to the gastro-enterological department, the head films to the neurological department, the urinary tract records to the urologist? If so, what other future can be seen for the roentgen department than a photographic laboratory, and what need for an experienced, trained physician-roentgenologist in such a place? My firm belief is that such a move would mean setting back the clock of roentgenological progress many years, for it would mean abandonment of all help obtainable from screen examinations by a physician-roentgenologist with his accumulated experience of many years in examining patients from all departments of a hospital. There is little tendency for the roentgenologist to get into a rut, to see problems from a single angle for he is constantly influenced by the diverging opinions of men in all departments of a hospital and has a better opportunity than most physicians to realize the fault of getting into a rut, and the need of maintaining a broad-minded attitude.

The above remarks should not be interpreted as intimating that an internist or any other specialist has not a perfect right to fit himself in every possible way for the practice of his specialty; and if he wishes to utilize the roentgen rays as one of the methods of examination, there can be no logical objection raised to his use of this procedure, provided he has devoted a very considerable time to study and practice of roentgen diagnosis under expert tutelage.

The roentgen-ray department is not engaged in work of a kind in which the answer to the problem is found by looking up certain formulas or watching for the development of certain reactions; for the reactions when obtained (that is, the film or screen images) still require interpretation. This takes the roentgen-ray work out of the general class of laboratories and puts it among the examining departments, such as the urologic, ophthalmologic and electrocardiographic. It might be better if the term "roentgen-ray laboratory" were abolished and we spoke of the "roentgen-ray department" or the "roentgen-ray examining department." The primary object of a roentgen ray department is not to make "pictures" but to supply information.

Most of the work leading to the production of this information should be done with the fluoroscopic screen. We see much fluoroscopy done in a careless or inefficient manner without any real appreciation of its value. In many hospitals the protected hand of the examining physician is never placed beneath the screen. The value of visualized palpation by the gloved hand slipped under the fluoroscopic screen cannot be fully appreciated by one who has not done it. The ability to move the stomach or bowel, to watch the excursions of the diaphragm, the beating of the heart, the ever changing shadows when one rotates a patient under the fluoroscopic screen, to observe the behavior of a joint or a fractured limb under fluoroscopic manipulation—all constitute advantages available under screen examination which cannot be overlooked or set aside, and which most often cannot be transferred to a film record.

The roentgenological diagnosis must be arrived at by a process of reasoning and argument, just like the clinical diagnosis. The films do not come out of the dark room with diagnosis labels filled out. By a process of considering all the possibilities and eliminating them until the probable diagnosis remains, the roentgenologist reaches a conclusion. He may not be able to put a name to a condition which he studies, unless he draws upon other than roentgen evidences for his information, and this is something which I believe should never be done. The roentgen report should contain only statements which can be substantiated from roentgen evidence. This report will then take its place with the other evidence of the case, from which the clinician in

charge will then draw his conclusions; *but*—and this is a very important *but*—if the staff has the slightest interest in the development of a capable roentgenologist with ever increasing usefulness, they will leave no stone unturned to keep him posted in regard to his cases, tell him of his successes as well as his failures, send for him when the surgeon or pathologist has let the light of day upon a lesion which has been baffling.

In the light of what has been said, it is apparent that the examination, and the interpretation of the examination findings, will be all the more valuabe and helpful if the roentgenologist is furnished with the history and such clinical data as are available up to the moment of the roentgen study. This will enable him to focus his attention upon the probable lesion and will permit him to exercise some of the "tricks" which he may have learned to brush away the fog a little more efficiently than if he is merely asked to examine this or that tract. The roentgenologist, once proven to be a man worth cultivating, should not be treated as though he were perpetually on examination and each patient sent to him as a catch problem, but he should be looked upon as a colleague and be provided with every fact likely to assist him not only in the interpretation of the case in hand, but also in his development into a better, broader, and more useful consultant. The roentgenologist may render valuable help in the early diagnosis of post-operative ileus, in the discovery of subphrenic abscess and in the proper placement of drainage tubes. In post-operative pneumonias and other respiratory complications, the roentgenological film sometimes constitutes decisive information. A sympathetic cooperation between the radiologist and the surgeon or internist in these types of cases will result in deviation from the old approved methods and result in valuable research in new methods and in new applications of old methods.

As Barclay has suggested, the roentgen department is full of intensely interesting work; it may be likened to a profusely illustrated book. The illustrations come automatically from all departments of the hospital and from outside patients. The value of the illustrations can be considerably enhanced if there is a close sympathetic co-operation between the pathologist and the roentgenologist; and it would be an advantage if the two departments were physically closely associated.

It transpires in most hospitals that a very large proportion of the cases find their way to the roentgen department, and if the pathologist and the roentgenologist are working together there is thus afforded a great opportunity for these two workers to see that there is made the most possible out of the wealth of material which accumulates. In this manner, the roentgen department may constitute a bureau of information concerning material available from the unique position occupied by it as a link in so many diagnostic chains. Again quoting Barclay, the roentgenologist has a great opportunity to help link up scattered units of a hospital which tend to get further and further away from each other, each absorbed in itself and not knowing what goes on in other units; and he should be able to break down barriers which have a tendency to spring up in big hospitals by making the X-ray department a common meeting ground for men from all parts of the institution.

Naturally this means that the X-ray department will be staffed with enough help so that the physician in charge will be sufficiently freed from enslaving and time consuming details of technical work, which a really efficient department will have done by assistants, to have the time to devote to the really medical side of his work, the interpretation and consultation. A roentgen department with such a head, would have a very marked stimulating influence on the scientific work of the hospital, and by making his department a social as well as

a scientific center for the work of the hospital in giving the staff a chance of meeting each other such as is nowadays seldom afforded.

Under such conditions, roentgenology holds possibilities for development that should tempt any man who loves pioneer work. The "fascination of discovery is great," and the application of roentgenology to other branches of medicine constitutes a rich field of research.

THE SIGNIFICANCE OF GASTRIC SYMPTOMS.*

L. B. NEAL, M. D.,
JACKSON, MISS.

The vast majority of patients who present themselves complaining of gastric symptoms do not have gastric disease. Practically all diseases disturb either the motor or secretory function of the stomach.

Dr. Will Mayo has compared the relation of the stomach and the rest of the body to that of the central fire station of a city, if we have disease of other organs of the body, digestion is disturbed and we have gastric symptoms just as the bell rings at the central station when we have a fire in any part of the city.

Treating the stomach for symptoms produced by disease of other organs is just as rational as it would be for the fire department to throw water on the bell at the central station and expect to extinguish a fire in some distant part of the city. I shall discuss some of these symptoms.

While pain in the region of the stomach may be and often is caused by disease of the stomach or duodenum it is also frequently caused by colitis, renal colic, hepatic colic, hernia in the linea alba, parasites, appendicitis and the lighting pains of tabes.

Vomiting may be caused by pressure from without, aneurism, new growths, drugs such as anesthetics, tobacco, ipecac or apomorphia, the onset of acute infections, uremia, diabetes, pregnancy, acute yellow atrophy of the liver, cylic vomiting, peritonitis, appendicits, intestinal obstruction, intestinal worms, biliary and renal colic, concussion of the brain, cerebral tumors, cerebral hemorrhage or abscess migrane, epilepsy and sea sickness. I have omitted diseases of the stomach causing vomiting to show the preponderance of extra-gastric causes.

Hemorrhage from the stomach is frequently caused by cirrhosis of the liver. Splenic anemia and jaundice, also hemophiliacs may bleed from the stomach. Belching is more of a habit than due to any disease.

The syndrome of symptoms given by patients who come complaining of indigestion, nervous indigestion or gas on the stomach are much more often caused by diseases of the lungs, (especially if the lower lobes are involved), organic or functional heart disease, diseases of the liver, gall-bladder, appendix or thyroid gland, and last but by no means least by intestinal parasites, especially hook worms, than they are by any disease of the stomach.

I shall report three cases to which the above remarks apply:

1. Mrs. S., age 58, housewife. Referred on account of persistent vomiting with great loss of weight and strength, she was vomiting practically everything eaten and her home physician suspected carcinoma of the stomach.

Examination of her urine showed both sugar and acetone. She was put on alkalies and diabetic diet and kept under observation for a few days while a careful search was made for any disease of the stomach or bowels, no disease other than the sugar and acetone in the urine was found. She immediately stopped vomiting and began to gain and in a short period was apparently well. No insulin was given, her urine was watched for some time and although there was very little restriction as to carbo-hydrates she remained clear of sugar.

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*Read before the Mississippi State Medical Association, Jackson, May 12-14, 1926.

2. Mr. D., age 56, merchant, came to me against his doctor's advice with a diagnosis of malaria and ulcer of the stomach. He had a severe cough, pulse 104, temperature 101, and respiration of 36, coughed some blood and had all of the physical signs of consolidation of the right lower lobe. X-ray pictures confirmed the diagnosis of lobar pneumonia. A report of these findings with the X-ray were sent to his home physician who said that we didn't know what we were talking about that he knew malaria when he saw it.

3. Mr. A., age 47, teacher. Referred by his home physician with a diagnosis of peptic ulcer, complained of all of the classical symptoms of ulcer and a diagnosis could easily be made of ulcer by the history alone, however in bringing out the family history he told of a brother who had ulcer and was operated for it.

Routine examination of his blood showed eleven eosinophiles and his stool showed many hook worm ova. Thorough treatment with oil of chenopodium and carbon tetrachloride very promptly cured his ulcer.

While I have done my best to present to you some of the many causes of gastric symptoms other than disease of the stomach itself, I would not have you forget that ulcer of the stomach or duodenum and carcinoma of the stomach are frequently met with and I hope that these remarks will cause no one to be less diligent in their search for them.

DISCUSSION.

Dr. L. B. Hudson (Hattiesburg): When I studied medicine, as I remember, our professor of medicine spoke of diseases of the stomach and classified them into three main types—acute gastritis, chronic gastritis, and cancer of the stomach. That is not so many years ago. Now we are recognizing the fact that the stomach is only an organ that tells us of some other disease within the abdominal cavity or along the gastrointestinal tract. I like the illustration that Dr. W. J. Mayo uses—that of a fire department. I heard him liken the gastrointestinal tract and its diseases to a great railway system; the brain the chief dispatcher's office; running from mouth to anus is the main road, and the stomach is the first station. What happens when we have an acute appendix? The operator at the appendix wires the dispatcher in the brain, "We have a wreck down here; don't send any more freight down—sidetrack it." But the freight leaves the terminal, and when it reaches the stomach it is rejected. In cases of chronic appendicitis, the signal is "slow orders," therefore slight nausea and indigestion results.

I thank the doctor for his paper. It was to the point.

Dr. George A. Hendon (Louisville, Kentucky): I want to say a word or two concerning this question because of the fact that the organs in the abdominal cavity that are the least often diseased are the spleen first, and the stomach next. They are the two healthiest organs we have. It has been my privilege to open quite a large number of abdomens and I have been very much struck with the infrequency of disease of the stomach. Yet every patient, or a large majority of them, that come to you will say that they have stomach or liver trouble.

I am so glad that the recognition is becoming widespread that the stomach in itself is very rarely the seat of disease. As a matter of fact I do not believe in functional disease of the stomach; I do not believe in chronic gastritis; I do not believe in gastritis except that brought on by the induction of some irritant. I believe the only stomach disease we have to contend with is cancer and ulcer, and an occasional focus of syphilis in the stomach. Aside from these things the stomach cannot be regarded as a primary offender.

Dr. L. B. Neal (closing): I appreciate the discussion, especially the illustration of Dr. Mayo that was brought out. I would not, and could not, limit the diseases of the stomach quite so much as Dr. Hendon, because we do have other diseases of the stomach, and chronic atrophic gastritis we certainly do see occasionally. There is practically no such thing as acute gastritis, but acute inflammation of the stomach is a possibility. We do have chronic gastritis, and we do have disturbances of the stomach such as muscular weakness, where the stomach is weakened by ptosis and there is a physical inability to take care of its work.

I do not want in any way to be the cause of any man becoming lax in a close examination of ulcers of both stomach and duodenum, and especially in the early diagnosis of carcinoma. Some of our best authorities state that carcinoma is never an operable condition. I think that is a mistake. I have seen a few cases where diagnosis was made soon enough and resection done, and one case which was done three years ago is apparently in perfect health now.

X-RAY TREATMENT OF EPITHELIOMA.*

G. W. GRIER, M. D.,

PITTSBURGH.

One of the earliest uses of X-ray as a therapeutic measure was in the treatment of epithelioma. The results have always been reasonably satisfactory in whatever manner the rays were applied. Undoubtedly, much of the early work was done in a more or less haphazard manner as apparatus was inefficient, the output of the tubes inconstant and the methods of measuring dosage tedious and unreliable. Under such circumstances, the most practical and indeed the only safe way to treat was to apply fractions of a dose with intervals of time between to allow for effect and to continue this process until the lesion was healed. Thousands of cases of epithelioma have been cured by this method which is still in use to some extent today. The invention of the Coolidge tube made it possible to deliver large quantities of X-ray of a uniform quality in a short period of time. The logical outcome was the so-called "massive dose method of treatment." This consists in applying a single dose large enough to destroy the entire lesion at one time. By the fractional dose method, a gradual involution of the lesion takes place as a result of the progressive destruction of the cancer cells. This occurs without destruction of the normal tissues in the region because cancer cells are usually more susceptible to radiation than the normal cells. The objections to this method of treatment are that some lesions will not heal, probably because the cells of that particular lesion are more resistant and recurrences are more common after healing. As a cause of these recurrences, I offer the theory that the lesion will heal over when most of the cancer cells are destroyed but that a few cells which are left remain vital and regenerate the lesion at a subsequent period. With the massive dose method of treatment, such a large dose is applied that the entire lesion including a margin of normal tissue is destroyed and sloughs away. The resulting wound heals by granulation. By this method, very few lesions fail of destruction and recurrences seldom happen, except when too small an area is treated and a few vital cancer cells are left in the margin of the wound. It might be asked if recurrences only happen when too small an area is treated, why not always include a wide margin of normal tissues around the lesion? The answer to this is that the treatment always creates a sloughing wound and the larger the wound the more difficult it will be to heal up. Where such a wound ¾ inch in diameter heals readily one which is two or more inches across might give considerable trouble. For this reason, any unnecessary exposure of normal tissue around the lesion is not desirable. I usually allow a margin of ⅛ inch of what appears to be normal tissues around the lesion.

The technic which I employ in this massive dose method is 5 milliamperes of current with a 7 inch parallel spark, at 10 inches distance from the tube target to the skin, using no filter of any kind and applied for ten minutes. This treatment is repeated every day or every other day until two, three or four such treatments have been given. The number of treatments depends upon the severity of the lesion. This is judged mainly by the depth to which it extends and the thickness and hardness of the edges. Small superficial lesions are given two treatments and large lesions with thick edges are given four treatments. A great majority are given three treatments. Lesions on the lip and on the hand seem particularly resistant and are never given less than four treatments. With this technic, from three to six minutes produces an erythema, depending upon the size of the area exposed. This is a point not often touched upon but will bear emphasis. An

*Read before the Louisiana State Medical Society, Monroe, April 15-17, 1926.

area ¼ inch in diameter will require 6 minutes with these factors to produce an erythema while an area two or three inches in diameter would get the same effect in two minutes or less. The amount of treatment given is, therefore, many times an erythema dose and produces actual tissue necrosis.

An X-ray burn always results from this treatment. It heals up readily, first, because the area involved is comparatively small and, second, the actual escharotic effect is quite superficial. It is well known that the percentage of soft rays in any unfiltered X-ray beam is very high and it is these rays which produce the tissue necrosis by this method. One might imagine that the more deeply situated cancer cells would not be reached unless a filter were used. However, a moment's reflection assures one that the more penetrating rays in the beam are there whether a filter is used or not and nothing is lost in this respect by omitting the filter. On the other hand, if an escharotic dose of filtered radiation is used, an obliterating endarteritis results in more or less deep seated tissues and such a wound will be very difficult to heal. I wish to reiterate that this technic is not to be used with filtered radiation.

The patient should be told at the beginning that the treatment will produce a "running sore," but if it is left entirely alone, it will heal up in three or four weeks. It is very important that no dressing of any kind shall be kept on the lesion and that no effort shall be made toward antisepsis. The resulting wound will, of course, be an infected wound and will discharge pus, often very freely. However, in a short time the dried secretions will form a scab which protects the wound. The pus will not continue to drain very long after this scab forms. The scab will be lost off from time to time and a new one will form, each succeeding one being smaller until finally the wound is healed up. The patient should be told emphatically not to remove scabs nor put anything at all on the sore except water. The sloughing begins about two weeks after the treatment is given and it requires about three weeks more for it to heal up. If the lesion is situated on a part of the body covered by clothing, the progress of the case is not always so satisfactory. Exposure to the open air appears to be essential if the wound is to heal readily and some sort of dressing has to be devised to meet this requirement. I often resort to the use of the vaccination shield for this purpose but even with this the part is still covered by clothing and does not heal promptly. For this reason, I give about one-third less treatment to a lesion which is covered by clothing than to a similar lesion located on the face or hands. Fortunately, epithelioma in such locations is rare.

As stated before, two, three or four treatments are given. These may be given one every day or every other day. These treatments are close enough together that the effect has not worn off in the interval between treatments. The dose may be given at one sitting if one has sufficient experience to know how many minutes to give to destroy that particular lesion. There seems to be a little bit more leeway if the dose is divided. There may also be a theoretical advantage in treating on three or four different days in that it is possible that cancer cells may be undergoing division at different times and one would thus multiply his chances of catching them in a more susceptible stage.

It must be emphasized, however, that the same effect will not be obtained at all by giving one of these treatments of unfiltered radiation every two or three weeks as is the common practice in using low voltage filtered radiation. To use this method of treatment successfully, it is necessary to examine the lesion carefully, decide the number of treatments to be given, apply them and wait for results. In making this decision, it is well to remember that most failures in radiotherapy are due

TABULATION ACCORDING TO LOCATION

	CASES TREATED		CURED		Original Lesion Cured Metastasis Not Cured		RECURRED		FAILED	
	1915-21	1921-26	1915-21	1921-26	1915-21	1921-26	1915-21	1921-26	1915-21	1921-26
Epithelioma Scalp	4	1	4	1	—	—	—	—	—	—
Epithelioma Forehead	24	48	24	46	—	—	—	1	—	1
Rodent Ulcer Forehead	3	—	2	—	—	—	—	—	1	—
Epithelioma Face	53	71	53	69	—	—	—	1	—	1
Epithelioma Temple	18	—	18	—	—	—	—	—	—	—
Rodent Ulcer Temple	7	—	5	—	—	—	—	—	2	—
Epithelioma Ear	22	23	22	18	—	—	—	1	—	4
Rodent Ulcer Ear	5	—	2	—	—	—	—	—	3	—
Epithelioma Eyelid	48	24	41	18	—	—	6	4	1	2
Epithelioma Eyeball	4	5	4	5	—	—	—	—	—	—
Sarcoma Eyelid	—	2	—	1	—	—	—	—	—	1
Epithelioma Nose	73	73	73	70	—	—	—	1	—	2
Epithelioma Upper Lip	7	—	7	—	—	—	—	—	—	—
Epithelioma Lower Lip	23	33	19	25	—	3	2	—	2	5
Leukoplakia Lip	7	6	7	6	—	—	—	—	—	—
Epithelioma Neck	8	12	7	10	—	—	—	—	1	2
Epithelioma Chin	—	5	—	4	—	—	—	—	—	1
Epithelioma Hand	6	13	6	13	—	—	—	—	—	—
Carcinoma Cheek	1	—	1	—	—	—	—	—	—	—
Carcinoma Back	1	—	1	—	—	—	—	—	—	—
Carcin. Nodule in Scar.	1	—	—	—	—	—	—	—	1	—
TOTAL	315	316	296	286	—	3	8	8	11	19

FAILURES AND RECURRENCES.

	CASES	APPARENT CAUSE OF FAILURE.	FINAL RESULT
Epithelioma Forehead	2	1 case previously treated with radium—quit treatment.	Not known.
		1 case recurred three times.	Well when last heard from.
Epithelioma Face	2	1 case recurred.	Responded to further treatment.
		1 case unaffected, probably not epithelioma.	Unimproved.
Epithelioma Ear	5	2 cases middle ear involved.	3 Dead.
		1 case cartilage involved.	1 case cured by operation, subsequently.
		1 case died of intercurrent disease.	
		1 case recurred but responded to further treatment.	1 cured.
Epithelioma Lip	8	3 cases unsuccessfully treated with radium previously.	8 dead.
		1 case unsuccessfully treated with X-ray previously.	
		1 case unsuccessfully operated previously.	
		3 cases primary lesion cured but metastases unaffected by treatment.	
Epithelioma Nose	3	2 cases, lesion inside nostril treated with X-ray and radium but did not respond.	2 not cured.
		1 case recurred but responded to further treatment.	1 cured.
Epithelioma Eyelid	6	Four cases recurred:	
		1 case lid was destroyed by caustics before he was seen.	3 cases cured.
		1 case quit treatment.	1 case quit.
		2 cases recovered following treatment for recurrence.	
		2 failed to respond to treatment.	2 uncured.
Epithelioma Neck	2	1 case not heard from.	Unknown.
		1 case failed to respond to treatment.	Unknown.
Sarcoma Eyelid	1	Post-operative case, was not influenced by treatment.	Disease progressing.
Epithelioma Chin	1	Recurred—treated elsewhere with radium.	Died.
TOTAL	30		

to under dosage and it is better to give one treatment more than is necessary than one treatment less. No ill effects will follow up to four treatments and if the lesion is on the lip or hand, or it is a very large, thick and indurated lesion, five may be given. If on a part of the body covered by clothing, two or three treatments are safer. If a margin of the lesion happens to escape treatment and remains after the rest is healed, it may be treated as a primary lesion of similar size. Such an area is usually small and one or two treatments over that spot only will cause its disappearance. The scar is generally a soft and pliable white scar and seldom gives any trouble. Occasionally, telangiectases will develop in the scar in the individuals who appear to have a predilection toward such a condition. If recurrence takes place in the margin of the scar at a subsequent date, it may be treated with the usual technic. However, if the recurrence is located fairly in the scar so that it is entirely surrounded by scar tissue I believe it is unwise to treat with this technic as the lowered vitality of the tissues in the scar may prevent healing. Such a recurrence, if not too large may be successfully treated by fulguration, or, if this seems unlikely to succeed it is best to have the whole area excised surgically. In lesions having very thick edges or where there is much superfluous epithelium as in some horny growths the use of fulguration to destroy this excess is often a valuable procedure preparatory to X-ray treatment. I have never thought very favorably of the use of curet for this purpose.

Lesions involving the cartilages of the ear, the cartilages of the nose or periosteum anywhere will probably not be cured by X-ray treatment alone.

In 1921 I reported 315 cases of superficial malignancy which had been treated largely by this method. Of 315 cases 74 had been treated partly by filtered radiation. There were 26 recurrences in that series, 18 of which were cured by subsequent radiation. I came to the conclusion that this high percentage of recurrences was due to under-dosage and the use of filtered radiation. Since that time, I have not used filters at all in these cases. In 316 cases treated since that time there were only 8 recurrences and 4 of these responded to further radiation. The accompanying table includes the 315 cases reported in 1921 and also 316 cases treated since that time. The 1921 tabulation does not show the 18 cases which recurred and were subsequently cured, otherwise, these two series of cases are comparable and the results are remarkably similar. An analysis of the failures does not reflect adversely upon the method. Eight of the lip cases were hopeless when first seen. Five of these had been inadequately treated previously and had advanced to an incurable stage and 3 had large metastases in the neck. Treatment was known to be only palliative when it was undertaken. The two cases of middle ear involvement and two extending into the nostril and the case of sarcoma of the eyelid, which had recurred 3 times after operation, likewise seemed sure to fail. Two cases quit treatment and one has not been heard from, which only leaves 7 of 316 cases which it seems should have been cured but were not.

CONCLUSION.

Epithelioma of the skin is most successfully treated by an escharotic dose of totally unfiltered radiation. This dose may be given at one sitting or subdivided into two, three or four treatments. If subdivided, the interval between treatments must be so short that there is little or no loss between treatment, the effect being practically that of a single dose.

DISCUSSION.

Dr. S. C. Barrow (Shreveport): The treatment of epithelioma or the treatment of surface malignancy is entirely different from that of deep malignancy. I have a good friend over in our neighborhood that always argues with me relative to the massive dose versus the divided dose, and I have always taken the stand that the massive dose was the method. In deep malignancy we have

to rely upon the forces of nature to heal as well as the destructive forces of radiation to kill. In surface malignancy we have to rely only upon the destructive forces of radiation to kill, nature healing over as in an ordinary wound.

The first epithelioma I treated was in 1904, down in the country, operating a static machine pulled by a gasoline engine. Since that time we have followed the gamut of X-rays and radium in their treatment, and today I don't know which is preferable. I don't think in all cases anything is preferable but each case is a law in itself.

Out of the 100,000 people that die of cancer per year, I would judge that at least 50,000 of them originate on the surface of the body, and I believe with the proper use of X-rays, radium and fulguration, fully seventy-five per cent of those, or possibly more, I think Dr. Grier would say, could have been cured if caught at the proper time by one of these agents.

The case which we show you here is in a very dangerous part of the body and was the first case that we treated with radium. The result was from one dose, one we called at that time and do yet for that case, a massive dose. He went home and came back after eight weeks with only a tip there. I have observed the man for seven years and he is still well. This is in the angle of jaw and I feel the result is all that can be desired. (Illustrated cases with slides.)

Second case: I don't attempt today, gentlemen, to treat an epithelioma or a carcinoma of the lip with X-ray or with radium. I mean in these recent days. I have done it. This gentlemen had a heavy carcinoma involving the lip. He is a brother of a doctor who may be here today. Under a heavy dose of radiation we destroyed effectively the carcinoma, X-raying intensively the glands of the neck.

Third case: Dr. Grier was talking about massive doses. Here is a condition over the neck and ear in which we gave the man seventy-five erythema doses, seventy-five times the unit dose, or rather 150 milliampere minutes. In eight weeks he came back and we had that condition (illustrating) with a complete regeneration of the ear. The man, however, I am sorry to say, died later because of a deep involvement which we were unable to reach.

Fourth case: This man got fifty times an erythema dose as estimated by us at one dose, and he returned in several weeks with only a dimple here. I observed him for fully five years and he remains well. Of course, he got in addition to the superficial radiation, heavy radiation all over the neck and upper chest at the same time.

I feel that we should thank Dr. Grier for coming and bringing before us a subject of such vital importance, and I have confined my remarks to radiation strictly, not meaning fulguration, which I hope to hear Dr. Grier bring out later and discuss at that time.

Dr. Grier (in closing): Dr. Barrow has expressed my ideas exactly with reference to deep seated malignancy. A case of that kind has to be attacked in an absolutely different manner. Superficial malignancy of course can be destroyed and the slough if the wound is small will heal up by granulation.

My experience in epithelioma of the lip has been a little bit different from his. It is quite possible, as I have said before, that the cases of cancer of the lip that I see which have been treated previously by surgery are those in which surgery fails. Possibly my failures go to the surgeon and he thinks the radiation is no good and neither one has a proper understanding of the entire subject.

I say the X-ray will destroy a malignancy on the lip with a great deal better cosmetic result and just as surely as it can be done by surgery. I don't know whether he referred to radiation alone in this case of his in which the lip was destroyed. Was that treatment with X-ray?

Dr. Barrow: That was done by X-ray radiation, by direct application.

Dr. Grier: I feel it is wrong to put radium needles into a cancer of the lip because it always results in an infected slough which it is almost impossible to heal. We all know that cancer thrives in an infected sloughing area. So I never would insert radium needles in the lip. With X-ray I think there are some fifty cases of cancer of the lip reported there. I remember the first ones that were reported nineteen out of twenty-three were cured. The last series of cases here, as I explained included eight which were absolutely incurable when first seen. Three or four were operated on and had recurrences following operation. One had been treated with radium and became an infected slough. Another had been treated with too small doses of X-ray.

I feel that one must, in treating cancer of the lip, use a dose suitable for that location. If you find it on the face it perhaps can be removed surgically but if it is on the lip the patient's life will probably be lost because by that time it metastasizes into the glands of the neck.

I am very glad indeed to have had this opportunity of addressing this audience.

CONSTIPATION.*

L. CARL SANDERS, M. D.,
MEMPHIS, TENN.

Constipation is a condition of abnormally retarded elimination of the intestinal contents. It is observed in patients of all ages, sex and social environment. In the earlier literature stress was placed upon tight lacing and sedentery habits as the cause of constipation in the female sex. In this age of equal suffrage, women have discarded the cumbersome stays and trailing dresses and have gone to the fore in competitive sports. Men in the rush of business life spend long hours indoors and neglect the necessary exercise essential to proper intestinal function. As a consequence we find constipation about equally distributed among the male and female sex.

In recent years better knowledge of the physiology of intestinal peristalsis, clearer interpretation of the nervous mechanism of the bowels and familiarity with the hormones of the intestinal juices have been important advances in the clinical study of delayed bowel action.

The neuromuscular system of the intestinal tract has a certain independence but the intrinsic muscles are stimulated through the vagus and inhibited through the sympathetic system. The peristaltic contractions of the colon are long waves which obliterate the haustrations during activity. These contractions are produced by stimulation of the nervous mechanism. Muscular irritation through catharsis, food imbalance and other influences disturb the normal function and produce abnormal elimination. Our interpretation of the factors which produce this abnormal function is necessary intelligently to institute treatment. A careful history is absolutely essential in determining these factors.

*Read before the Mississippi Six Counties Medical Society, at New Albany, Miss., July 21, 1926.

CLASSIFICATION.

By the use of the modern X-ray, particularly flouroscopy, we are able to classify constipation into three types:

1. Spastic.
2. Atonic.
3. Obstructive.

Sometimes more than one type is observed in the same individual; particularly is this true with the spastic and obstructive types. Clinically the form of stasis can very often be ascertained without resort to X-ray. A study of the symptoms and a physical examination gives a fairly clear insight into the condition present.

SYMPTOMS.

There are a certain number of people habitually constipated who live a normal life, eat a balanced diet, take regular exercise and have no other symptom than constipation. As a rule those who seek medical advice have other symptoms which are outstanding in their minds. Fullness after eating, eructation of gas, acid dyspepsia, coated tongue, nausea, headache, vertigo, soreness and mild abdominal pain and insufficient elimination are the common symptoms. Very often there is fecal impaction with symptoms of intestinal obstruction.

Spastic constipation is present in those patients who have small soft stools, often ribbon like, with griping pains in the lower abdomen accompanied by flatulence. The colon is contracted and the haustral markings are close together, often almost obstructing the lumen. This condition is frequently spoken of in the literature as "irritable colon."

It is a recognized fact that chronic appendicitis and gall-bladder disease commonly produce spastic constipation through reflex stimulation of the nerve center located within the intestinal wall. Alternate constipation and diarrhea is an important symptom in chronic cholecystitis and it is frequently observed that colonic stasis is relieved promptly after the re-

moval of a diseased appendix or gall-bladder.

In atonic constipation the stools are dry, hard, usually in lumps and often covered with mucous. Under the flouroscope the colon is found to be large, the haustral markings are shallow and far apart. Visceroptosis and obesity are often present. Patients with this type of constipation of long standing usually are pale or have a pasty, sallow color.

Obstructive constipation is found in diseases of the rectum which obstruct the outlet, particularly hemorrhoids, fistulae, benign and malignant structures, tumors of the pelvic organs or displacements, tumors within the abdomen, either intrinsic or extrinsic, adhesive bands which narrow the lumen of the bowel and fecal impactions.

TREATMENT.

The treatment of constipation is first of all finding and removing the cause. This is not an easy task, in many instances demanding a thorough and painstaking study.

HABIT.

A large percentage of constipated individuals owe their poor elimination to neglect. A regular time for stool is very important. In the morning after breakfast is the ideal time because the column of fecal matter has entered the recto-sigmoid during the night, the taking of food stimulates peristalsis and the pressure of feces in the rectum excites the muscle sense reflex and the call to stool is sent to the higher centers. At stool the sphincter ani relaxes and by the law of contrary innervation the rectum contracts expelling its contents. After the first fecal mass has been expelled, the rectum expands, the rectosigmoid valve relaxes and the remainder of the feces from the descending colon enters the rectum and is expelled. This completes the emptying of the entire descending colon under normal conditions.

When people are busy and disregard the desire for stool, the stimulus gradually diminishes and soon is entirely lost so that the presence of feces in the rectum produces no desire for stool. Thus the habit is broken and constipation results.

DIET.

It is always necessary to know the quantity and character of the food taken. We know that in atonic constipation a diet rich in residue is essential and in the spastic type a non-residuous diet is indicated. In the present rush of business life, attention to a balanced diet seems to have lost the necessary importance. Food is too often chosen because of its ease of preparation with no thought of a balanced ration. Rapidity in eating and improper mastication of food lead to poor digestion and fill the colon with coarse, irritating food residue. In our laboratory it is not uncommon to find in feces whole grains of corn, beans, large hunks of meat, vegetables unchanged and quantities of seeds. It is not surprising to see an irritable colon after the ingestion of such coarse material.

In spastic constipation the diet of choice is non-irritating and free from food bulk; creamed chicken, cereals, eggs, potatoes, spinach, mashed peas, carrots, creamed soups, custards, jellies, ice cream, orange juice, milk and toast in proper combination will furnish the food values and leave the minimum residue to be eliminated. The foods to be avoided are coarse vegetables, fried food, citrous fruit, pork, condiments, gravies, sweets, acids and soups made from meat stock.

The diet in atonic constipation should consist of food which will stimulate peristalsis and furnish bulk to the stool. Coarse vegetables, meats, citrous fruits, vegetable soups, meat broths, whole wheat bread, bran, coarse cereals, and salads should be eaten. Food containing a high starch content and fats should be avoided.

EXERCISE.

Very few people who take strenuous exercise suffer with constipation except in the presence of some organic or mechanical condition. Sedentary work produces lax abdominal muscles and leads to adiposity and visceroptosis. Special physical exercises, walking, golf, tennis, swimming and calesthenic exercises are essential to promote muscle tone. In order to secure lasting results from exercise the patient must choose some form of exercise which has enough sport in it to be interesting. A lonely walk on a cold rainy day is not a pleasant pastime to one who has long walks prescribed for him by his physician. Any course of exercise can be followed provided it has the appeal to that spirit of competition so great in the American people.

MEDICATION.

The last measure to be considered is the administration of drugs. Most patients who are constipated have the cathartic habit when they seek medical advice. A common practice among the laity is the taking of a purgative for all ailments. A person who has not had a satisfactory stool will take a drastic purge, the result being a copious, watery stool and consequently a dehydration of the intestinal canal. The action of the drug increases peristalsis, irritates the gut wall and for a few days the function of the entire tract is inhibited. Another purge is taken which further disorders the normal physiology of muscular control, until finally the cathartic habit is formed. The enema habit is equally condemned, for the same reason.

If a careful search for the cause of the colonic stasis is made and the type of constipation, whether spastic or atonic, is determined, the treatment falls into a definite therapeutic measure fairly simple.

In many instances the measure already discussed will be sufficient for proper elimination. There are, however, definite indications for drug therapy in all cases where correction of faulty habits and removal of the cause has not restored the function to normal.

Mineral oil combined with agar agar in the form of an emulsion is a non-irritating substance which lubricates the entire canal, soothes the mucous membrane and insures the smooth easy passage of the fecal column through the large bowel. The dosage must be regulated by the results. From one to two ounces daily is usually sufficient.

In very obstinate cases stronger laxatives are sometimes indicated. Cascara or the heavy oxide of magnesia in graduated doses can be added in quantity sufficient to produce results and gradually withdrawn. After the habit of regular stool is formed, the diet and exercises controlled, all medication can often be discontinued.

Belladonna or atropine given to the physiological limit is of valuable service in quieting the spasm of the intestinal wall in spastic constipation.

A simple fruit mixture which I have prescribed for a number of years has been very helpful, particularly in the atonic type of stasis. It consists of:

Cooked prunes (seeded)	1	pound
Dried figs	1	"
Dates (seeded)	1	"
Agar agar	2	ounces
Senna leaves	2	"

This mixture is run through a meat chopper several times until it is thoroughly mixed and pulverized and then made into a cake, which is in turn cut into blocks one inch square. The dose is one block taken at bedtime.

Finally stress must be placed upon the amount of fluids taken. A glass of water before breakfast and a glass after each meal is very helpful. Fluids furnish moisture and aid in the smooth passage of the fecal column through the intestinal tract.

Prolonged treatment and observation is necessary in constipation. Every patient should be impressed with the necessity of

routine measures and should be warned against the taking of cathartics. In no other condition is co-operation between patient and physician more necessary than in the treatment of constipation.

SUMMARY.

1. Constipation is not a disease but a condition of abnormal intestinal stasis which is often caused by irregular habits, imbalanced diet or is reflexly produced by some abnormal condition of the gastro-intestinal tract.

2. There are three main types observed, spastic, atonic and obstructive.

3. The severity of the symptoms is in direct proportion to the degree of disturbed function observed in the gastro-intestinal tract.

4. The treatment is, first, the removal of the cause; second, the re-establishment of the normal intestinal peristalsis by regulation of habits, diet, exercise and by discontinuing catharsis; third, by the use of drugs which are non-irritating, chiefly mineral oils combined with agar and in obstinate cases the temporary addition of cascara or magnesia.

CONSERVATION OF THE PERINEUM DURING LABOR.*

PHILIPS J. CARTER, M. D.,
NEW ORLEANS.

Experimental and progressive medicine is making possible the survival of the fittest, through conservation of the human organism. Eagerness for better obstetrics through parental care is conserving the rights of the unborn babe, at the expense of the maternal organism, by more radical procedures.

Normal obstetrics should be our slogan for better obstetrics. Purposely to change normal into abnormal obstetrics, in order to shorten the second stage of labor, except when there is delay, or for the convenience of the accoucheur, is not justified, and is to be condemned.

Many obstetrical tragedies would be prevented, could the public be educated to the fact that preservation is not a one day, but a life long thought, beginning with our very existence in the world. "We reap what we sow," and then wonder why nature does not heal all illnesses.

To preserve the whole we must preserve its parts, but not at the expense of one another. To preserve the perineum of a parturient in labor, we must preserve her whole organism before she goes into labor. We should go back before the advent of pregnancy, and caution our patients, that they may become mothers, and impress upon them that self-preservation is the first requisite for existence, that abuse of this may result disastrously in the struggle for existence.

A careful physical and pelvic examination is imperative, in order that muscle tone and general body wasting may be detected and proper treatment instituted. Attention to bowels and kidneys, proper exercise, clothing, and hygienic measures, should be routine in all our cases.

Being assured that the pregnant woman is in excellent health, is no criterion that she is not subject to diverse diseases, which may at any time undermine her health. Therefore it behooves us as physicians to keep a constant lookout for our patient by regular periodical examinations of their heart and lungs, kidneys, blood pressure, weight, etc., and have her report any abnormal thing that may occur. A complete physical examination should be made in every case in her eighth month of pregnancy, with special attention to her pelvis, both bony and soft, and to the presentation and position of the baby. At this time a fair estimate of the durability and elasticity

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of the perineum and vaginal floor may be ascertained, and a relative estimate of perineal damage that may occur during delivery. This is gained by introducing the index and middle fingers of one hand into the introitus as far back as the levator ani muscle can be felt (usually about four inches), and then spreading the fingers apart, depressing and withdrawing them with firm pressure, over the posterior vaginal floor and perineum. The resistance encountered is the index to the amount of durability and elasticity. The position of the head in the last trimester, especially in primipara, is a very important matter in the determination of this point. In many cases where for no apparent reason the head rests high in the pelvis, this fact will directly affect the elasticity of the perineum and posterior vaginal floor, concealing in reality the nature of the soft parts, because no pressure is brought to bear on these parts. The examining finger in such a case will meet with great resistance in most instances, but firm pressure with the fingers along the posterior vaginal wall, will give you the index as to the amount of expected relaxation and elasticity.

A head that is already engaged in the pelvis, before the onset of labor, will by its own pressure, together with the increased abdominal pressure, cause a lowered tone to the pelvic muscles, paralyzing them to a certain extent, and consequently lessening the rigidity; thus causing a slow dilitation of the birth canal before the onset of labor. A previous relaxation and stretching of these structures naturally favor a more normal delivery than when the head is high in the pelvis.

In my experience I feel convinced that the pubo-coccygeus portion of the levator ani muscle is the direct and predisposing factor in all tears of the birth canal. This, however, does not hold true where obstetrics is abused, or where there is great disproportion between passage and passenger. When this large sling like muscle, encircling closely as it does, the sides of the vagina, and passing under the rectum as a mechanical and physiological support to that structure, contracts, the rectum and vagina are both brought up against the pubes, and at the same time the anus and lower part of the rectum are drawn backward by the action of the rectal sphincter. This is the normal physiological action of these muscles.

The descending head, where passage and passenger are normal, meets with little resistence after complete filtration of the cervix, until it strikes the beginning of the posterior vaginal floor. The first resistence then met, is the broad fan-like iliococcygeus portion of the levator ani muscle, whose entrance may be compared to a funnel, with its base pointing toward the hollow of the sacrum. The head readily descends into the base without much resistence. As the occiput reaches the middle plane of the posterior vaginal floor, a trying ordeal for the patient begins, in that it strikes the pubococcygeus muscle, and this must be passed before extension of the head can occur.

In reviewing the mechanism of labor in normal presentations we are taught to reckon with the pelvic outlet as a bent cylinder, with a downward, inward, and upper curve, through which the foetus must pass, during its descent through the pelvis. Sellheim explains the mechanism of delivery through such a cylinder by "the law of the accommodation of elastic resistence to the shape of the container."

We are again taught that the occiput as it descends along the sides of the pelvis is directed under the pubes. Theoretically this is true, but is it true practically? The levator ani muscle acts as a sling or gutter, from the sides of the pelvis, with the direction of its canal from behind foreward (DeLee). The levator ani is conceded by many to be a paired muscle, an iliococcygeus and pubococcygeus. The iliococcygeus has no other function than that of

supporting the viscera, and readily admits and allows the foetal head to pass without much resistence. The pubococcygei are the most influential supports of the pelvic floor and restore the pelvic floor to its proper position after the depression induced by parturition, defecation, and efforts at urination. Normally they pull the perineum upward after the descending head has pulled it down. In some cases the contraction of the muscles actually obstructs the descent of the head (Peter Thompson).

DeLee says our best efforts should be directed to preserve the levator ani, the perineal ones being less harmful, and yet it is the prevention of perineal lacerations that occupies so much of the accoucheur's attention.

In its descent through the parturient canal, the foetal head becomes more and more flexed, with exaggeration as the occiput strikes the pubococcygeus muscle. Examination at this stage in the average primipara and a large percent of multipara will reveal a marked depression between the occiput and the pubococcygeus muscle, which indicates that the head is descending in a downward direction posterior to the sling muscle and behind the rectum. The firm thick pubococcygeus muscle acts as a barrier to the beginning ascent of the head, and as the tissues posterior to these muscles are more elastic, the occiput seeks the line of least resistance. With what results? The constant pounding on the barrier muscle will soon cause oedema, not only *per se* but of all structures anterior to it. The ultimate outcome is a paralysis of the levator muscles, allowing the head to jump over its sling, meeting with understretched and undilated oedematized perineal structures, with possibility of brain injury to the infant from forced pressure against these structures.

In order to combat this tragedy, or to minimize the danger anticipated, we must know the mechanism of labor in its final stages, and conduct it as thoroughly as we can.

Prevention is better than cure, is an old adage, known to us all. Some of our cases are going to give us trouble no matter what we do. Some are going to tear in spite of our care and some are not. All things being equal we should give the patient the benefit of the doubt, and try to preserve her structures at the cost of a possible small tear. I am not against operative procedures for without them we could not do obstetrics. I am for normal obstertics, but when we make abnormalities by routine or promiscuous episiotomies, forceps, or podalic version, to shorten the second stage of labor, before adequate means have been thoroughly tried to prove their worth, it is not the teaching of better obstetrics today.

There is a test method that has been very valuable in my hands, and I am sure in the hands of a great many of you. I make no plea for its originality, but its application will greatly modify the morbidities and fatalities in our daily practice. It is a question of proper dilatation and support of the levator ani and perineal muscles together with their contiguous structures. The method is similar to the manual dilatation in our hurried forceps operation, though less intense and of longer duration.

Dilatation of the vaginal canal is begun when the cervix becomes fully dilated, or in exceptional cases, shortly before. The index and middle finger of one hand (preferably the right) are introduced into the vagina as far back as the head can be felt, and the vaginal floor and perineum are ironed out. The pubococcygei muscles can easily be felt as two roundish pillars at the sides of the vagina, and at times may become very rigid. This rigidity is overcome by placing both index fingers in the vagina and massaging in a downward and outward direction. The whole procedure is to be a slow gradual ironing out process, preferably during pains and for a few seconds

after the pain has subsided. The maneuver is to be gentle to prevent injuring and tearing the structures. It is done with very little discomfort to the patient, and without anesthesia, and many will be conscious of the helping effect. By the time the head reaches the pubococcygeus muscle, the muscle will be so stretched and paralyzed that the head at once passes over with little tention, and the occiput will become impenged under the symphysis.

Now, with dilatation complete and the occiput under the symphysis, the support begins. Its purpose here is two-fold: First, it brings the levator ani muscle (which is now stretched and sagging) back to its anatomical position, by placing the tips of all the fingers of one hand posterior to and behind the rectum, and raising this structure by the force of the fingers. This is done during each pain. The second function is a result of the first. By elevating the tips of the fingers the third stage of labor is completed, that of extending the head. This should be a slow and gentle maneuver. With the occiput under the symphysis during the advent of a pain, the left hand (palmar surface) is allowed to rest on the advancing occiput, but no pressure exerted. The right hand with the tips of the fingers supporting the levator muscle posterior to the rectum, will grasp the baby's forehead at this point, and the foetal head can be held in this position until further dilatation is accomplished. This position is maintained during each subsequent pain, until sufficient dilatation has occurred for delivery, when a few whiffs of ether are given as the head is being born. The delivery is done by the accoucheur and not by the patient. A well thinned out vagina and perineum will usually tear if the patient delivers herself, on account of the expulsive force she exerts at the final stage. If done slowly in the manner outlined, tears will be neglible. The fixed head in the accoucheur's hand as it extends will gradually be born. The finger tips experiences the displacement of forehead for chin, while the upper hand with the aid of the thumb and fingers, slowly peel the perineum over the brow, nose, and chin, as the head makes its exit from the vulva.

In forceps deliveries the same method is applied, the left hand holds the shank of the forceps instead of its place on the occiput, and the fingers of the right hand support the perineum from beneath.

Many perinei are conserved by the application of these principles of dilatation, support, and ether anesthesia. Many are not conserved because we wait until an emergency arises before ironing out the parts, and then it is done hastily and more damage is done by the ironing process, than by the anticipated operation. I have used this method of delivery in a great many cases, and must admit before its use, I rarely delivered without tearing, but now the reverse is the case.

In home deliveries the patient should lie on a non-resisting surface, usually the kitchen table or a good strong ironing board placed between the mattresses of the bed. A resisting surface will not permit of the perfect levator support.

This method is the secret of success in the Potter version, for it is not so much in the actual delivery, as it is having a thoroughly dilated vaginal canal and outlet.

Many practitioners endeavor to prevent peritoneal lacerations by supporting the perineum, by actually laying the palm of the hand on the structure and pressing firmly during the acme of a pain. This method was mentioned by Playfair in 1885, and was condemned in that the method not only failed to prevent, but actually favored lacerations, in consequence of the pressure producing uterine action just at the time when forcible distension of the perineum is likely to be harmful. Others held that the perineum should be left entirely alone and that the head should be allowed gradually to distend it, without any assistance on the part of the practitioner. Goodell placed one

or two fingers of the left hand into the rectum by which the perineum could be hooked up and pulled forward over the head, the thumb of the same hand being placed on the advancing head so as to restrain its progress if necessary. Playfair recommended slight incisions on each side of the raphae when great distention occurred, but doubted its usefulness. Our progress has been the result of the teachings of these great men, and we would do well to pause and go back and study with them a little while longer.

The episiotomist contends that the clean cut, made with the scissors or knife, leaves an even clean cut surface to be sutured, and usually does an epistiotomy before the supreme test of the perineal resistance is made. The statement was made forty years ago, that when a distended perineum ruptures, its structures are so thinned that the tear is always linear, and as a matter of fact, the edges of the tear are always as clean and as closely in approximation as if the cut had been made with the knife.

If episiotomy is made before or after thinning out has occurred, there will be retraction of the muscle fibres and elastic tissue cut through, producing a more or less uneven surface. A line of least resistance is thus established and the advancing head seeks this resistance, with the possibility of deepening the incision. Applegate, of Philadelphia, cites an instance of a well known successful gynecologist in whose practice, in a certain perentage of cases where he felt that episiotomy was indicated, lacerations extended from the depth of his incision to the pelvic bone, and one recently in three directions. In seventy-five percent of those operated, there had been no primary union or only partial union. He further states that by reason of the usual location of a perineotomy incision, the tissues involved and the disturbance of the circulation, make the secondary repair more difficult, than the secondary repair following a spontaneous laceration, which has occurred at the weakest point in the perineum.

Another author says, that incision of the perineum is rarely, if ever, necessary, unless it is hardened by previous cicatrization. DeLee says do what we will, more or less lacerations will occur. Williamson, in a recent article, says that episiotomy will often help in forceps mid-pelvis operations, before traction is made, as it gives the operator a better direction of pull. He does not do it as a routine. His indications for epistiotomy were probably all right, provided he did not have time to iron out the structures. In midforceps cases I cannot see the rationale of simply doing an episiotomy for the sake of more handle room, when a well ironed out and dilated vaginal outlet will do more than an episiotomy will ever do. We must all agree with Dr. DeLee, when he says that watchful expectancy and natural delivery will give the best results in the conditions in which the vast majority of births occur. That the indiscriminate use of forceps, of pituitary solution and of forced delivery will do immeasurable harm.

Pfleiderer claims lessened perineal tears by causing the patient to lie on her right side, he standing in front of her placing the palm of the right hand on the foetal head, so that the finger tips rest on the perineal border. As the foetal head advances he pushes the perineal margin ahead of his fingers and over the head of the child, thereby causing the distance from the anal opening to the edge of the perineum to be no greater than it was before the head began to protrude through the vulva. This is the principle as outlined by the position of the left hand in the dilatation and support method just presented.

Since writing this article, a very plausible paper has been written by Aschner, of Germany, which has a similarity to the present paper. I shall quote the article as abstracted in the Jour. A. M. A., Mch. 13th, 1926, as follows:

Aschner declares that we have been mistakenly attributing to contracted pelvis disturbances which in reality are due to the soft parts, especially delayed and defective dilatation. The efforts for dilatation are what exhausts the woman and every means should be applied to facilitate the dilatation. The most effectual and least harmful method to accomplish this, he says, is to dilate the external os with the fingers or entire hand when the cervix is unfolded. By applying this measure at the proper time, many complications and interventions can be avoided, as he has established by analysis of 364 deliveries treated on this principle. Combined with a little pituitary extract and a few whiffs of ether, the childbirth approximates the ideal of painless delivery. An abnormally protracted and painful childbirth is not a natural process, and hence requires more than to be left to nature alone. The great frequency of constitutional anomalies and what he calls domestication injuries explain the relative frequency of these soft parts disturbances and abnormal labor conditions even without appreciable anatomic anomalies. Since he has been applying this principle to all primiparas, and in cases with premature rupture of the membranes or abnormal labor pains, he has had no instances of puerperal infection, laceration of the cervix or other injury to mother or child.

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DISCUSSION.

Dr. W. L. Bendel (Monroe): I think we are all interested in the conservation of the perineum during labor and I want to state that I agree heartily with the principles that have been laid down by Dr. Carter in his paper. I think that as soon as the bulging of the perineum manifests itself the obstetrician should place himself in a position effectively to check the progress of the head when found necessary.

Every obstetrician has tears; those that say they haven't tears overlook them or don't know them. The tears will vary from slight tears to complete tears, and I think the frequent occurrence of complete tears is either ignorance or negligence. The levator ani muscle is practically always injured even though the vaginal mucous membrane doesn't show evidence of the tearing because of its elasticity. The causes of the tears are usually four-fold: the disproportion between the head and the vulva passages, too rapid expulsion, abnormalities in the mechanism of labor, and the narrow pubic arch.

Regardless of the amount of tear or the degree of tear, I believe this should always be repaired immediately unless there is some severe contraindication. I believe we can lessen the possibility of the tear and protect the vagina and the perineum by two main methods. That is, by slow delivery, developing to the ultimate the elasticity of the perineal parts, and delivering the head of the child in forced flexion, whereby you bring the suboccipitobrachmatic and suboccipitofrontal diameters of the head to the perineum passage, which are from one and one-half to three centimeters less than the occiput.

As far as the episiotomies are concerned, I never have been in accord with them. It always has impressed me as being just a little bit on the side of brutal procedure. Of course, I know there are indications of it. We realize there are indications for episiotomies but in some localities it is too frequently resorted to and I wish to voice Dr. Carter's ideas on that subject.

Dr. James F. Cooper (New York): I enjoyed this paper very much and I feel that I would like to say just a word or two in regard to the attempts to protect the perineum in the normal cases. Episiotomy as dealt with in our textbooks and indications given vary quite considerably with the different authorities. I was connected with the obstetrical department of Boston University Medical College for some time and in that capacity went out "on the district" so-called with the students who were getting off their required cases before graduation. In that capacity I saw a great many cases. The word that I wish to leave with you is to avoid as much as possible all interference. When examinations are necessary, it is much preferable that instead of making vaginal examinations that examinations be made per rectum and those as few as possible; never vaginal unless absolutely necessary and then as few as possible.

According to statistics we have in the United States over 20,000 deaths occurring from childbirth every year. Now that mortality is exceeded only by one other cause of death in women in the childbearing period, that is, from fifteen to forty-five, and it is a terriffic mortality. It has been roughly estimated that about one-half of these deaths are due to infections. Here, of course, is a great opportunity for improvement in the technic of our obstetrics. When we realize that so many infections

occur, we should be very, very careful to avoid all possibilities of it. It is impossible, of course, to sterilize the vaginal tract and while we can sterilize ourselves with rubber gloves the more manipulations we make the greater is going to be the possibility of infection, and that is just the point that I want to make.

We tried in our district work all sorts of things, supporting the perineum with gauze, having our hands there putting hot compresses on, and dilation, and all the rest of it, but we found after a long time that everything we could do seemed to produce very little effect and we came to the conclusion that the better thing to do in all these cases is keep hands off and stand by and help the woman in all sorts of emergencies and just lessen the possibilities of infection.

Dr. J. A. Danna (New Orleans): I am not supposed to be an obstetrician but I still do some obstetrics. I believe with the last speaker that one should not unnecessarily make vaginal examinations, but I think that Dr. Carter's practice is a very different kind of practice from the practice that Dr. Cooper speaks of. I think Dr. Cooper is right in impressing the medical student with the necessity of doing everything he can to keep from infecting his patient; but I believe the chances of producing an infection are greater after you have once put your fingers in the rectum, with or without gloves, than they are if you are careful to keep your hands clean and put them in the vagina occasionally. I never have been able to reconcile myself to a routine of rectal examinations. I very seldom make a rectal examination in an obstetrical case.

I want to compliment Dr. Carter on his attitude on this subject generally and to say that I am heartily with him in everything he has said.

Dr. E. M. Levy (Alexandria): Unfortunately I failed to hear the paper but having had several hundred lacerations I would like to say that the thing I have always found in lacerating my perineums was not the head but the shoulders. I think we make a big mistake and it has been my custom for a long time to give chloroform just as the head was coming out of the perineum, and for years just as soon as the head got out I quit and the shoulders came out with a bump and I had a laceration. I believe if we would be as careful with our shoulders as we are with our heads we would have less of it.

Dr. Thos. B. Sellers (New Orleans): I agree with Dr. Cooper that we should make more rectal examinations and fewer vaginal, especially in homes. It is a known fact that everytime a vaginal examination is made, there is just one more chance for infection.

We teach students that if there is a possibility of a cesarian section, preferably make a rectal examination and only make a vaginal examination under most aseptic precautions.

I do an episiotomy on about 80% of my primiparas. We must not lose sight of the fact that many times the levator ani muscle is injured without a tear of the vaginal mucosa. This explains so many of our relax vaginal outlets with apparently normal vaginal mucosa.

I want to congratulate Dr. Carter on this excellent and timely paper. It should appeal not only to the obstetricians, but also to every practicing physician.

Dr. D. I. Hirsch (Monroe): I would like to discuss this paper but I want to take exception to the statement of Dr. Sellers. I think if a man is just halfway careful in a house he is less liable by a larger majority to have an infection in a home in obstetrical cases than in a hospital. No matter how careful you are in a hospital you have a place where the infection is concentrated no matter how you clean it or take care of it, and if you are just the least bit careful in a home the liability for infection in obstetrical cases is much less than it is in the hospital.

Dr. C. H. Mosely (Monroe): I beg pardon for coming so often on this program and I know that I am liable to pull the house down on myself, but here it goes. I believe that the person that is clean can make a vaginal examination with some safety. Somebody said this morning that you can make statistics prove anything. They proved, in Johns Hopkins', just a little while ago that preparation availed but little, that people had less infection by not shaving the vulva.

People who have noticed a normal delivery have seen that the head will come up pressed on the bladder and you get a discharge of urine. This urine goes over the head, washes the vulva and vaginal tract and goes back up with the head. Reasoning from cause to effect, I cannot see any more difference in that head making that excursion coming down over the perineum and then being pushed back as we are taught to push it, and of putting an aseptic hand in that vagina that has been thoroughly immersed in hot bichlorid plus a certain amount of sodium bicarbonate and then subjecting that woman to a measure of that vaginal tract. I cannot see the difference. There may be a difference but there is no reason for it.

Dr. James E. Walsworth (Monroe): I certainly appreciated the paper that the doctor read. I heard most of it and personally I can agree with practically everything that was said, but in the discussion a point was brought up about the in-

fections, puerperal infections. It has been my experience, although I do not do very much obstetrics, that if you are careful to go into the history of that case from the time of her menstrual record you will find in the great majority of those instances that that patient has suffered some infection previously and that gives you the puerperal septicemia and aseptic complications. If you will go into your histories, nine times out of ten you will find a record of some trouble that has become latent and it is not the condition that happens at the time of the delivery.

It seems to me that there is an explanation for the greatest number of ovarian infections that follow the puerperal period and I don't believe that there is very much difference with the average physician in his care during the delivery hours because we all have the same rules and regulations, we are all conscientious about handling those cases and take care of them the best we can. I feel that in the home or the hospital if you will find your record of that case and follow it up you will get an explanation of those infections that come about.

Dr. Carter (closing): I thank you for this discussion you have given me and I am sorry I could not have finished my paper. There was something there that would have answered some of the discussers.

In regard to the rectal examination against vaginal examination, I have considered that for a long time. I have done both and I find that my morbidities are not any greater in the ironing out process of the vaginal examination than with the rectal examination. It is mainly the asepsis in your examination that governs the case.

You take the appalling death rate of the woman in childbirth in the United States being around 20,000. We forget for a moment the large percentage of those cases that are handled by midwives, midwives that are not trained in their work. For instance, in Chicago where there are quite a good many midwives (I forget the percentage of the cases) you will find that the cases of morbidity, the majority of them, are the cases that have come in from other hands, but if a doctor will go in and handle that case from the beginning his results will be just the same as if he made a rectal examination. I think it is better for your vaginal examination because you can make out a better position of your head and you can certainly iron out the parts.

It is the dilatation of these soft parts that draws on the strength of the patient and if we can make the secondary stage short by this procedure we prevent the strain on the patient. Where a case comes up for cesarean section, of course, if it is an infected case we have to take our chances and do the extraperitoneal. If you have a case that comes to you, examine her at her eighth month, make a vaginal examination. If you know then you are going to do a cesarean section, hands off and make no other examination. When she goes into labor do your cesarean or do it before she goes into labor.

The main thing I tried to bring out in the paper is the matter of slow dilatation, the support of the levator ani muscle and ether anesthesia. The perineum is never touched; by pressing directly on the perineum you aggravate the condition and produce tears. If the head pushes down without ironing out it is bound to cause edema especially if it is primipara.

THE NORMAL AND PATHOLOGICAL DEVELOPMENT OF THE SINUSES.*

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The paranasal sinuses have a normal cycle of development which when followed results in an adult type of sinus capable of handling the ordinary infections. If the sinuses suffer a severe single infection or recurrent mild infections during their formative period this development can be either arrested or retarded. At times it is possible to speculate as to what age this interference has occurred by studying a series of roentgenograms of the cranium. In the past we have been taught that any surgical interference would arrest the development of the sinuses. This I believe to be an error, for I have many roentgenograms to show that surgically improving the ventilation and drainage of the sinuses after disease had arrested the growth, has aroused the sinuses to new growth and in some instances this growth has been at an increased rate over the normal. In fact I use this one establishment of growth as a criterion as to whether we have successfully arrested our infection, for until an arrested

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sinus can be seen to enlarge it cannot be considered cured.

EMBRYOLOGIC CONSIDERATIONS.

Davis, in 1924, presented his studies on the embryology as follows:

During the third week of embryonal life there is evidence of beginning development of the nasal areas as shown by increasing thickness of the ectoderm on the antero-lateral portions of the forebrain. At the end of the third week, or during the fourth week, the nasal area appears as a depression which is brought about by the increased thickness of the surrounding mesenchyme. * * * The primitive nasal capsule develops as a part of the primordial cranium. * * * In the second month the nasal capsule becomes clearly differentiated from other mesoderm and shows beginning cartilaginous development. * * * Schaeffer records that the concha nasalis inferior appears in embryos of thirty-eight to forty days as a bulging of the inferior portion of the lateral nasal wall immediately superior to the portion from which the palatal processes develop. From the fortieth to the forty-third day the ethmoidal fold appears superior and slightly dorsal to the fold representing the concha inferior and from this ethmoidal fold the ethmoidal conchae are developed as the nasal cavity increases in its supero-inferior diameter. * * * In the sixty-day embryo * * * the lateral nasal wall shows two distinct folds, the lower being the concha nasalis inferior and the superior one the ethmoidal fold, which is beginning to assume the form of the concha nasalis media. In its postero-superior portion the ethmoid fold shows a further differentiation, indicating the early formation of the concha superior. The conchae, in their earlier stages of development do not contain cartilage, but are folds of mesenchyme covered by nasal epithelium. * * * From the posterior portion of the agi nasi there is seen in the sixty-five-day embryo a ridge of mesenchyme extending in a posterior-inferior direction along the superior curved border of the concha inferior. This ridge, which has its free edge directed postero-superiorly and slightly medially, is the early *processus uncinatus*, in which there soon appears a thickening or condensation of mesoderm in its central portion, followed by transformation into cartilage. * * * Just inferior to the attachment of the middle portion of the concha media * * * the early *bulla ethmoidalis* develops from the lateral ethmoidal mass as one of its secondary folds. * * * Between the free antero-inferior surface of the bulla and the postero-superior surface of the processus uncinatus is a narrow interval, the primitive hiatus semilunaris, which is the opening or means of communication between the meatus medius and the *infundibulum* ethmoidale, the infundibulum developing as the gutter-like channel lateral to the processus uncinatus. * * * The number of ethmoidal conchae into which the lateral ethmoidal mass becomes differentiated varies from three to five. The majority of fetuses examined had three ethmoidal conchae—four were not uncommonly present; but only on one side of one specimen were five demonstrable. * * * All ethmoidal cells, the frontal and maxillary sinuses, have their origin from preformed grooves or furrows between the folds which develop on the lateral nasal wall. The meatus nasi medius soon becomes the most complex portion of the nasal cavity, and developing from it and extending into the surrounding areas are extensive processes of pneumatization which are termed the cellulae ethmoidales anterior, the sinus maxillaris, and the sinus frontalis.

THE CELLULAE ETHMOIDALES.

"* * * All ethmoidal cells having their ostia inferior to the attachment of the concha nasalis media belong to the anterior group, while those having their ostia superior to the concha media belong to the posterior group. This classification holds good regardless of how far the more distant portions of any irregularly developed cells of either group may invade the region or-

dinarily occupied by cells of the other group. * * * Seydel observed that an ethmoid cell, having its origin from any given meatus, did not communicate with any cell having its origin from any other meatus. Zuckerkandl took exception to this statement, but certainly every specimen in this series supports Seydel's view.

DEVELOPMENT OF THE CELLULAE ETHMOIDALES.

"* * * The cellulae ethmoidales develop as invaginations of the nasal mucosa, extending into the lateral masses of the ethmoid from the primitive grooves or furrows in the lateral nasal wall. These invaginations, representing the primitive ethmoidal cells, appear in the fourth fetal month as cylindric extensions of the mucosa, in which the epithelial surfaces are in contact. As the diameters of the invaginations increase there gradually develop lumina within the cylindric processes, which, by the sixth fetal month, usually show a distinct cell formation.

CELLULAE ETHMOIDALES POSTERIOR.

"Primitive cells of the anterior ethmoidal group develop earlier and more rapidly than those belonging to the posterior group. In the anterior group the bulla cells are usually the first to be distinctly demonstrable. * * * The manner in which the processus uncinatus is attached to the agi nasi, its relations to the bulla ethmoidalis, and the character of the attachments of the anterior portion of the concha media, exert the greatest influence upon the proportion between the number and size of the cellulae frontales and the cellulae infundibularis. If the processus uncinatus is attached to the postero-lateral portion of the agi nasi and the antero-superior attachment of the concha media is high up in the lateral nasal wall, then the cellulae frontales are apt to be well developed. However, if the anterior attachment of the processus uncinatus is more media in position and the antero-superior attachment of the concha media is situated lower on the lateral nasal wall, then the recess is small, the cellulae frontales are apt to be deficient in development, and there is usually a corresponding increase in both the number and the extent of the development of the cellulae infundibulares. * * *

CELLULAE ETHMOIDALES ANTERIOR.

"* * * The most posterior ethmoidal cell frequently develops dorsally until a portion of it lies superior to the ventral portion of the sinus sphenoidalis, but in no case was there a communication found between a posterior ethmoidal cell and the sphenoidal sinus. * * *

THE SINUS MAXILLARIS.

"The sinus maxillaris is the most constant of the nasal accessory sinuses and is seldom absent. Reschreiter mentions reports of four cases in which a sinus maxillaris was absent. * * * In embryos eighty-five days old there is a lateral outpouching of mucosa, demonstrable in the infero-lateral portion of the walls of the infundibulum ethmoidale, slightly anterior to its midpoint antero-posteriorly. This is the primitive sinus maxillaris, which gradually develops as an oblong recess, extending first into the lateral nasal capsule, after the resorption of which it continues its advance and development into the maxilla. The point of primary lateral pouching persists as the ostium maxillare. * * * As the body of the maxilla increases in size there is a corresponding increase in the extent of the pneumatization. * * *

THE SINUS FRONTALES.

"* * * A sinus frontalis may develop as an antero-superior extension of a cell originating from either of these two recesses, as a direct extension of the infundibulum ethmoidale, as a direct extension of a recessus conchalis in which no frontal cells have developed, or, in rare instances, as an extension from a cell originating in the suprabullar furrow. * * * From whichever of these sources a frontal sinus may have its origin, the process of pneumatization gradually extends from the portion of the anterior ethmoidal area toward and

into the inferior portion of the frontal bone. The sinus, surrounded as it is by a thin lamina of compact bone, then advances towards the ascending portion of the bone is resorbed. This rate of resorption, frontal bone, advancing as the cancellus in an average case, is such that the sinus begins its ascent into the vertical portion of the bone during the second year, and in the third year is 3.8 millimeters above the level of the nasion. * * *

THE SINUS SPHENOIDALIS.

"The sinus sphenoidalis differs in its early development from the other accessory sinuses in that the primitive sinus does not have its origin from one of the furrows situated on the lateral nasal wall, but develops as an invagination extending from the postero-superior portion of the recessus spheno-ethmoidalis. * * * The site of this primitive invagination persists as the ostium spenoidale. Embryos of eighty-five to one hundred days show the development into the nasal capsule more distinctly, the advancement of the pouching process being most frequent in a postero-inferior and slightly lateral direction. * * *"

The ethmoidal cells are present at birth. They develop until puberty is well established and reflect in their growth the influences of the infections they have suffered. The sphenoid sinus is generally a distinct cell at birth, but has no clinical significance. From the age of three the sphenoid sinus grows rapidly so that at the age of ten it reaches its adult size. The frontal sinus is formed by the migration of an anterior-interior ethmoid cell into the frontal bone and as soon as the cell enters the frontal bone it becomes the frontal sinus. At birth and during the early years of life the ethmoid cells are sharply divided into an anterior group and a posterior group. The spheno-ethmoid labyrinth will assume the size and shape that its component bones will allow and the presence or shape of the frontal sinus is governed by the migration of the anterior ethmoid cells. The growth of the spheno-ethmoid labyrinth should be proportionately pneumatization and capsulation. This growth is dependent upon the absence of infection for the sinuses reveal in their growth and development the infections they have suffered. If the infection at any time during the developmental period of the sinuses is severe or persistently mild it will retard or stop the natural growth and development with the production of a type of sinus in the adult known as the persistent infantile spheno-ethmoid labyrinth. In the persistent infantile spheno-ethmoid labyrinth the pneumatization is subnormal and the capsule hypertrophied, as shown by the roentgenogram. The characteristic persistent infantile spheno-ethmoid labyrinth in the adult has few anterior cells and these are small with hard, thick walls which do not migrate sufficiently to form a frontal sinus, or if they do form a frontal sinus, it is only rudimentary. The posterior cells are likewise few with hard, thick walls, but are larger than the average posterior cell, though their aggregate volume is less. The sphenoid sinus is small and its walls are thick and firm. The membrane lining these cells is thin and not capable of normal secretory powers. Atypically placed cells are very common. The persistent infantile sinuses are prone to atrophic diseases and osteitis, while the normal sinuses are capable of recovering from severe purulent inflammations. In the latter group chronic inflammation may produce hypertrophic changes and polyps. The cystic type of ethmoids can only occur after the sinuses have been normally developed for we do not meet any cystic changes in the persistent infantile type. In fact the cystic changes are really pathological degenerations and not developmental changes. When infections have arrested the development of the sinuses this is not always permanent for by re-establishing the normal ventilation and drainage of the undeveloped sinuses through surgery they will begin to grow again and in many instances regain the lost develop-

ment in a comparatively short time. In fact it has been my experience that the sinuses must show new growth before the pathology can be considered corrected. The teeth are influenced by the arrest of the development of the antra but we have not had any evidence of injury from surgical interference upon the further development of the teeth.

I have taken a large number of roentgenograms of sinuses and compiled them into one picture. The A's represent the shadow of the sinus at birth or during the first year. As will be seen the ethmoidal cell has not migrated into the frontal sinus and the floor of the antrum is above the level of the floor of the nares. The sinus at puberty is represented by A and B and here the frontal is seen to be fairly well developed and the floor of the antrum on a level with the floor of the nares. The extreme adult development is represented, A, B and C, and the floor of the antrum is now below the level of the floor of the nares. With this sketch in mind any roentgenogram of the sinuses can be compared to a normal roentgenogram of the age of the patient.

If the infection is arrested, and this is best done by the removal of the tonsils and adenoids and, if necessary, the drainage of the antrum, the sinuses will begin to grow. In fact, unless the development of the sinuses is accomplished to within the range of the normal age of the patient, the infection cannot be considered arrested.

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DISCUSSION.

Dr. E. L. Posey: I want to say I enjoyed Dr. Shea's paper very much; it shows a great deal of original thought and work, and I think we are very fortunate to have Dr. Shea come and read his paper. I do not think there is anything I can add to what has already been said.

Dr. D. C. Montgomery: Doctor Shea has done some very wonderful work along this line. It has served to clear up and make easier for the rest of us in making the diagnosis, particularly chronic ethmoid infections. He began about seven years ago, and since then I have been reading with a great deal of interest his different contributions along this line, and by the aid of his papers and original work the subject has been made considerably easier for me, and a very interesting one. I want to thank him again for this very excellent contribution.

Dr. E. F. Howard: I wonder why it is the chairman put a chap like me to discuss any paper by Doctor Shea. Having heard the paper, I am convinced he has been guilty of an act of supererogation, if you know what that means—it is a nice long word. When you recall the fact that Doctor Shea is the man to whom I submit all of my sinus problems, whenever it is at all possible for me to do so, I am quite sure you will agree with me that the best discussion I can give you is to just use the three words you ordinarily hear every day from the telephone girl—"Excuse me, please."

Dr. R. C. Lynch: We are indeed indebted to Doctor Shea for the excellent paper presented to us which in reality represents the type of work he is doing. Dr. Dean of Iowa is the pioneer in this field of work and Doctor Shea runs him a close second. His investigations have stimulated my own work in this particular field so that I now unconsciously find myself searching for sinus manifestations in these youngsters. Following Doctor Shea's methods we have treated a number of children suffering from sinus conditions, obtaining happy results in all cases.

Doctor Mitchell: I would not have the temerity to appear before this body but I feel I am as much interested as you are. These cases do not come to you, they come to the pediatrician and the general practitioner. They do not come with rhinological symptoms, they come for other conditions. I will read you a tabulation of these cases we made a few years ago in our series:

For return of the adenoid symptoms	62
Chorea	10
Failure to gain, or malnutrition, irregular temperature of unknown origin	11
Anemias	5
Pyelitis	5
Asthma	18
Headache	2

Since that time we have had four cases that showed the typical headache.

The case which Doctor Shea has just shown exemplifying the development of the sinuses was a

typical asthma. As the sinuses began to improve and the frontal sinuses to develop the asthma disappeared. The child has had no asthma for a period of something over two years.

Another point we noticed in our series particularly was the number of cases in which the tonsils had been removed previously. The cases were tabulated as follows:

Under six months—after	the	removal	of	the	tonsils....		3
6 months to 1 year—	"	"	"	"	"	....	3
1 year to 2 years—	"	"	"	"	"	....	14
2 years to 3 years—	"	"	"	"	"	....	30
4 years to 5 years—	"	"	"	"	"	....	20
5 years to 6 years—	"	"	"	"	"	....	10
6 years to 7 years—	"	"	"	"	"	....	4
7 years to 8 years—	"	"	"	"	"	....	1
8 years to 9 years—	"	"	"	"	"	....	2
9 years to 10 years—	"	"	"	"	"	....	2

Also in our series at that time we had twenty-seven cases where the tonsils had not been previously removed. This tabulation shows that the majority of our cases of sinus infection occurred where the tonsils had been removed six months to eight years previously.

At this time I wish to call your attention particularly to the frequency with which sinus infection produced typical symptoms of the return of the adenoid growth.

In making our diagnosis of diseased paranasal sinuses we have noted especially the following points clinically from the standpoint of the general symptomatology. This is, these children are nearly all under weight; they are all highly nervous; the rhinological symptoms are more or less absent. The roentgenogram is now used as a routine in all suspected cases. A salient point in the history is that these children clear up in the summer time. Also when they are taken to a different climate they will show marked improvement, especially if they are sent to the seashore or the mountains they clear up immediately. I remember one boy who had a typical sinus infection and was sent to Gulfport and immediately cleared up. He remained there for four weeks and was well all the time while there, but after his return home the infection returned with all its intensity. I think from a clinical standpoint, there is no condition on which we must depend more upon your co-operation. I think a rhinological examination is essential and should be made in every case of doubt.

In a recent papers that I read before the Southern Medical Association on this subject before the Pediatric Section the universal comment was "How do you get the co-operation of your rhinologist?" We cannot get this co-operation. We send the case to the rhinologist and he says I do not believe much in this stuff about paranasal sinusitis in children.

Further, unfortunately, the doctrine is being preached, not by rhinologists altogether but by others in the profession, that if you once operate on a child's sinuses you must continue to operate throughout life, that there is no permanent cure. I think Doctor Shea's series of plates and the work he has done somewhat refutes this theory. That instead of tearing down the sinuses we are building up the sinuses; that the sinuses that were deficient in growth are now growing. Our work also shows to us conclusively that as the focal infection is cleared the clinical symptoms, whether asthma, nephritis, pyelitis or some other condition, likewise improve.

This discussion of mine today is a plea to the nose and throat men for co-operation. If we can work together we will accomplish results. If we work at variance we will accomplish nothing. It is up to the pediatrician to recognize that the paranasal sinuses constitute a frequent focus of infection, that they produce many other conditions, that the local findings are often nil, that a rhinological examination including satisfactory roentograms is necessary in all cases of doubt. It is also up to the pediatrician to work in harmony with the rhinologist by keeping the child's physical condition in as good shape as possible. It is up to the rhinologist to remove this focus of infection, not merely to state that he does not believe it.

Paranasal sinus infection covers a big field and if we work in harmony we can accomplish good results.

FRACTURE FOLLOWED BY SARCOMA, OR SARCOMA FOLLOWED BY FRACTURE?*

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The importance of cancer among civilized races is readily acknowledged. Allowing for better statistical information, for improved methods of diagnosis (including autopsies), for greater longevity as explanation of the greater incidence of malignant disease, authorities like Frederick Hoff-

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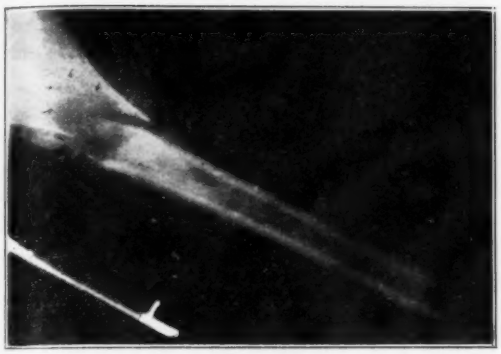

Fig. 1—Case I. June 4.

man express the opinion that cancer is on the increase. He states that in New York State the cancer death rate has increased from 61 per 100,000 in 1898 to 97 in 1921, while in the United States it increased from 63 per 100,000 in 1900 to 86 in 1921; he gives the mortality in San Francisco as exceeding 160 per 100,000. Nearly all the other white countries show a steady increase in the cancer mortality rate.

You are familiar with the theories as to the nature of cancer and the various factors which appear to bear on the etiology of the disease. In this paper it is proposed to consider only one etiologic factor, that of trauma. Psychologists and philosophers assert that there is some basis of truth to all popular beliefs. If that is true, we must consider with some degree of respect the lay impression that trauma causes cancer, for it seems generally held and is frequently brought to our attention.

While repeated trauma and continued irritation have long been accepted as contributing to the development of cancer, in association with other factors, there has been in the past a tendency to deny single trauma as an etiologic factor. The opinion was held that, *e. g.*, a woman struck on the breast and developing cancer had already a small nodule which was stirred to rapid growth by the reactionary hyperemia that followed.

Magruder (Claims Arising from Results of Personal Injury, The Spectator Co., 1910) makes the following quotations:

Bland Sutton: "I have not deemed it necessary to discuss injury as a cause of tumor."

Lowenthal: "That the trauma itself does not furnish the real cause for the formation of a tumor is apparent from the fact that thousands of traumatisms are constantly occurring and that few tumors develop."

Bloodgood: "Trauma has not been an important etiologic factor in the history of either benign or malignant tumors of the breast."

McCallum (Textbook of Pathology, '24, page 109) makes this statement: "Injuries and Irritations: Single severe injuries, such as blows or fractures, have frequently been followed by the development of a sarcomatous tumor, though rarely by a carcinoma. Thousands of such injuries have no such result, however, and it may well be questioned whether the connection is not an accidental one."

Fig. 2—Case I. July 18.

The current trend of thought has been in the direction of accepting single trauma as determining the development of cancer. A steadfast proponent of this view has been Dr. W. B. Coley of New York, to whom we are indebted for his contributions to the study of the etiology and treatment of the disease.

Fig. 3—Case I. Sept. 15.

Da Costa (Modern Surgery, 1919, page 399) says: "Injury and inflammation may undoubtedly prove exciting causes. A blow is not infrequently followed by sarcoma."

Ewing (Neoplastic Diseases, 1922, page 108): "Trauma seems to be the sole tangible factor in originating many tumors of bone, etc."

(Page 109): "By trauma is here understood a single or repeated more or less contusing, crushing or lacerating mechanical injury."

(Page 111): "The character of the injury followed by tumor growth varies widely. Sarcoma commonly develops after a single blow. Fractures, lacerations of deep tissue, contusions and concussions, all of which are apt to cause hemorrhage, represent the usual type of injury preceding sarcoma and benign mesoblastic tumors. The common superfluous callus about fractures reveals the great proliferative capacity of periosteum, and Benecke believes that the regenerative process in periosteum may run directly into sarcoma."

Your attention is called to the fact that Ewing includes fractures among the single-trauma causes of sarcoma. He gives the estimates of traumatic origin of tumors as varying from 2.5% (Kempff) to 44.7% (Lowenthal), stating that of 6780 undifferentiated tumors 494 (7%) were regarded as of traumatic origin, while of 2641 carcinomas 107 (5%) were classed as traumatic, and of 938 sarcomas 176 (19%). He mentions 55 melanomas reported by Werner Rowe of which 19 gave a history of injury to a mole, and 1086 cases of glioma of the brain of which 8.8% were preceded by rather definite traumatic history.

DaCosta (Modern Surgery, 1919, page 399) says: "Injury and inflammation may undoubtedly prove exciting causes. A blow is not infrequently followed by sarcoma."

On the other hand, Boyd (Surg. Path., 1925, page 160) expresses himself as follows: "Occasionally a sudden trauma may be followed by the development of a malignant growth. Sarcoma of bone may develop at the site of a contusion, cerebral tumor may follow a head injury. The injury, however, must be slight—a contusion and not a fracture. This holds true also in the case of tuberculosis and hematogenous osteomyelitis. Apparently the violent reaction which occurs at the site of a fracture results in a local immunization by cells and body fluids which is sufficient to prevent the operation of any extraneous factor."

Fig. 4—Case II. March 6.

Eisendrath and Strauss deny the relationship between trauma and fracture. (Keen's Surgery, Vol. VII, page 417): "Development of Tumors at Seat of Fractures: We can find no authentic case report in which there was a direct relation between the fracture and the neoplasm. In every case

Fig. 5—Case II. April 6.

thus far published the fracture either was a pathologic one, *i. e.*, a tumor was the cause of the solution in continuity, or there was only a history of injury and the tumor found at such a short interval afterwards as to render it improbable that the injury has any causal relation."

It will be seen from these quotations that while single trauma as a cause of cancer has gained considerable recognition, its influence when taking the form of a fracture is doubted by some. Coley, who recognizes trauma as a determining cause of cancer, includes cases of fracture among others.

Recently there have come under my observation two cases in which apparently fracture was followed by sarcoma.

Case 1. J. J. L., negro, male, age 28 years, was admitted to Charity Hospital June 2nd, '25. Eight days before admission, while trying to mount a horse, his foot slipped and he fell, landing on his left knee. He was carried home and a splint applied. On admission to Charity Hospital he was given the Australian treatment of traction and suspension. The X-ray report at this time was: June 2 (C. 46288 B.) "comminuted fracture lower 1/3 left femur; position good" (fig. 1). June 4th (C. 46356 B.) the same report was made. July 14th he complained of pain in the limb. July 18th X-ray report (C. 48188 B.) was "A. P. and lateral views of the thigh show old fracture of the diseased bone. Malignant tumor, probably sarcoma, at lower 1/3 femur" (fig. 2).

Coley's toxins were now given under the direction of Dr. J. A. Danna, the doses rising from ½ minims to thirty minims.

Sept. 15th X-ray report (C. 51080 B.) was: "Greater extension of diseased area in lower 1/3 femur, with marked increase in secondary involvement of soft parts of thigh" (fig. 3).

About Nov. 1st he was transferred to my ward. As his sarcoma was now a huge mass, confining him to bed, amputation as a palliative measure was considered. An X-ray picture of his chest showed no evidence of metastasis to the lungs.

Nov. 17th, amputation at the hip was done under a combination of spinal anesthesia (apothesine) and ethylene. The report of the Pathologic Lab. was "Giant Cell Sarcoma." He was discharged Jan. 18th, '26, much improved, having gained weight.

Case 2. I. C., white, male, 18 years old. Admitted to Charity Hospital April 6th, '25. About a month before admission he was struck on the arm by a street car; came to the accident room of Charity Hospital and had a triangular splint applied.

X-ray report, March 6 (42355 C.) was: "Oblique fracture mid. 1/3 left humerus; position good" (fig 4).

Following the first aid treatment he attended the out-patient clinic regularly. A few days before admission the arm began to swell. X-ray report, April 6th (43743 B.): "Pathologic fracture middle 1/3 humerus, which we believe to be myeloma" (Fig. 5). Examination of the left arm at this time showed it swollen and tender; there seemed to be a growth at the site of fracture, with apparent non-union of fragments. The urine showed no Bence-Jones reaction.

April 21st, 15 days after admission, 6 weeks after trauma, X-ray report (44389 B.) showed "complete absence of the middle ¾ of the shaft

Fig. 6—Case II. April 21.

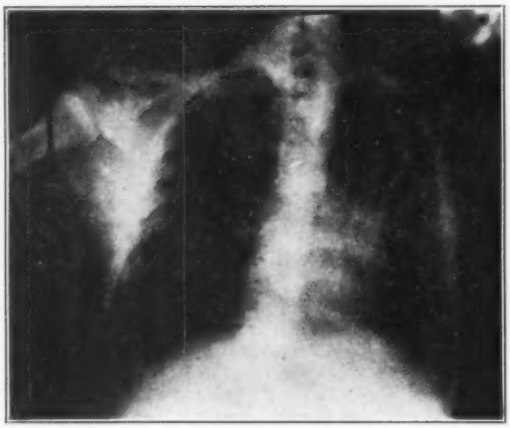

Fig. 7—Case II. July 5.

of the humerus; no periosteal reaction, no new bone formation" (Fig. 6).

April 25th, disarticulation at the shoulder was done by Dr. Muir Bradburn. The report of the pathologist was "Osteo-Sarcoma."

July 5th, the X-ray report of his chest (47965 A.) showed sarcoma metastasis involving both lungs (Fig. 7). Death came shortly after.

COMMENT.

It will be noted that in both cases the original report from the X-ray department referred to the fracture and the position of the fragments, without noting any changes in the bone itself. In Case 1 it was 6 weeks after admission, 7 weeks after trauma, when an X-ray picture was reported for the first time as showing definitely disease of a neoplastic form. In Case 2 the neoplastic disease was plainly seen in the X-ray taken one month after injury. At my request Dr. Amedee Granger, director of the X-ray department of Charity Hospital, has gone over the pictures with a view to determining any evidence of disease in the primary exposures. He is of the opinion that in both cases the first pictures show osteoporosis with thining of the cortex, sufficiently marked to justify the opinion that disease existed at this time. While no evident tumor appears in these pictures, the findings are consistent with what we might expect in early neoplastic disease.

If it were not for Dr. Granger's opinion, I should be inclined to consider Case 1, the femur fracture, as one of sarcoma following fracture, on account of the number of weeks (seven) that elapsed between the accident and the taking of a picture that showed new growth. In Case 2 the development of an unmistakable tumor in 4 weeks justifies the opinion even from a clinical view point, that the fracture was a pathological one.

Believing as I do that the X-ray evidence is to be given paramount weight in such conditions, I conclude that in both these cases the fractures were pathologic, caused by early neoplastic disease and not acting as the cause of the disease. These are instances of sarcoma followed by fracture, not fracture followed by sarcoma.

THE TODD TUCKER IN MUSCLE WORK.*

E. L. POSEY, M. D.,

JACKSON, MISS.

While an interne in Wills Eye Hospital I asked the late Dr. Samuel Risley what he considered the most difficult task an ophthalmologist has, and without the least hesitation he replied that after almost fifty years of experience he considered muscle work the most difficult. The longer I practice the more I am convinced that my great teacher was correct in his statement.

Many operations for squint have been done. While an interne I had an opportunity to see all these operations performed and to see the end results, and the one that gave the greatest number of successes is the one first done by the late Dr. Todd, and this is the one I do almost exclusively in my work. This operation has advantages and disadvantages but I think the good features out-weigh the bad ones.

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*Read before the Mississippi State Medical Association, Jackson, May 12-14, 1926.

When the Todd tucking is done there is no cutting of the muscle and should the sutures refuse to hold the eye is in no worse condition than before the operation. With the tucker, one can usually judge accurately the amount of tucking necessary to get the eye straight.

In a few words I will describe the technique I follow in doing this operation. A longitudinal incision is made in the conjunctiva and capsule over the muscle; beginning a short distance from the limbus, the muscle is exposed and freed. A small curette is used to irritate the under surface of the muscle (this seems to hasten union). The tucker is next introduced and the amount of tucking to straighten the eye is done. A curved needle with number one catgut suture is inserted through the muscle from within out. The catgut is cut so a tie can be made on each side and when this is done the tucker is removed. The loop or tuck is then sutured with fine catgut to the muscle along its attachment. The usual after-treatment is given.

REPORT OF CASES.

Case No. 1: Miss P., white, age 14. History of left eye squinting since three years of age. There was a convergence of 48°. The operation was done under general anesthesia and you may see the end results.

Case No. 2: This young lady had a convergence of 40°. The work was done under general anesthesia.

Case No. 3: This was a case of paralytic squint since childhood. The external rectus was so weak and flabby I decided a tenotomy was necessary.

Case No. 4: This little fellow had an advancement done by another surgeon with no improvement. We did the Todd tucking on the right eye and you see the end results.

DISCUSSION.

Dr. L. S. Gaudet: Mr. Chairman, and Gentlemen: The problem of muscle work represents several phases. You have some men who will do nothing but cut the muscle, and others who will use the tucking method wherever it is practicable. Of course, wherever we can we use some means or method of tucking—and of course, Todd tucker is one of the good ways, but different men have brought out different forms of tuckers; I am very familiar with Bruns', because I worked under him a great deal. One advantage of the tucker is, if you have a failure with that you have a second line of defense in doing a tenotomy. The other thing you must bear in mind is, you must not do it on children too young. I never do it under eight or nine years old, for you want sufficient development of the muscle to get good results. If you do it before that time you usually don't get good results. Doctor Posey said something about having done some under general anaesthetic. Wherever you can get the confidence of the child you can do most of these cases under the local anaesthetic, usually one per cent solution of novocain. Sometimes the results are very good, and sometimes the results are not so good, for the fact that you have no means of measuring the exact amount of tucking to be put in. Sometimes you have forty degrees, or fifty degrees, of squint, and you have no way of taking up a definite measurement when you use your tucker; consequently, in a good many cases you don't get perfect results; there may be a little squint after the operation. But, as a whole, the tucker method is by far the most superior, and the one which will give you the best results.

I enjoyed the paper very much.

Dr. E. L. Posey (in closing): I enjoyed the discussion. The instrument I use is so graduated in millimeters I can pretty well tell how much to take up in order to get a straight eye. If I have a convergence, say of forty degrees, I have it so graduated that I can take up to about six or seven, and so on. I thank you, doctors.

NASAL SURGERY UNDER RECTAL ANESTHESIA.*

EDLEY H. JONES, M. D.,
VICKSBURG, MISS.

In the average run of cases that come to the nasal surgeon there are some that are poor subjects for local anesthesia. Strict asepsis, as well as convenience, prohibits anesthesia by the inhalation method. It is this particular type of case to which I wish to call attention and to suggest the use of rectal anesthesia. In this paper I am not bringing out any thing new; instead, I wish to call attention to this method, which has been developed by others.

The basic requirement of an anesthetic is analgesia with the minimum of risk. The analgesia need not be accompanied by

*Read before the Mississippi State Medical Society, Jackson, May 12-14, 1926.

unconsciousness; in our line of work it is distinctly an advantage for the patient to be sufficiently conscious to co-operate. It is essential for the patient to keep quiet. Rectal anesthesia has all of these advantages and more.

Ether by rectum was first suggested by Pirogoff in 1847, and that same year Roux reported a case, using ether with water. In 1884 Yocum of Copenhagen and Molliere of Lyons reported using hand bellows to force ether vapor in the rectum and later, on using a rubber tube connected with an ether container in a water bath at 122 F. The method was taken up in some of the Eastern hospitals, but Weir and Bull reported grave results following its use, which was confirmed by others, and the method was dropped.

In 1902 Dr. John H. Cunningham of Boston made the first noteworthy advance, devising an apparatus whereby ether-laden air was forced into the rectum. Sutton improved both the apparatus and the method, using oxygen, but it again fell into disuse.

To Dr. James T. Gwathmey of New York belongs the credit of developing the modern method. Baskerville and Wallace, co-operating with Gwathmey, found that while ether evaporated at 34.6 C., it does not escape as violently when combined with oil, even when heated to body temperature (37 C.) Further, they found the ether, so combined, evaporated at a definite and fairly fixed rate. This permits of an even plane of anesthesia. The patient does not absorb a large amount of ether on injection but becomes gradually anesthetized.

Later, Dr. Hooper of the Metz Laboratories associated himself with Gwathmey, studying the synergistic action of other drugs with ether. They found that magnesium sulphate, along with prolonging and enhancing the analgesic effect of morphine, greatly enhanced the anesthetic effect of ether and, in the quantities used, did not add greatly to the toxicity. They further found that the addition of 2.5% novocain to a 50% sol. of magnesium sulphate and .4% sol. of morphine sulphate (2 cc. containing ⅛ gr. morphine) increased the analgesic and anesthetic actions of the combination 25% and definitely prolonged its action.

Several factors recommend this method. It removes a psychic factor—the patient's dread of "going to the operating room to be cut on"—because the patients go to sleep and wake up in their room. In the operating room they are calm and relaxed; not apprehensive or nervous. Physiologically, the kidneys and stomach do not appear irritated; the pulse and respiration are usually slightly lowered; and the ether-laden blood, passing through the abdominal venous channels and heart before reaching the lungs, causes very little secretion of mucus, thereby lessening the danger of pneumonia. It is not contra-indicated in cases of asthma and mild bronchitis. The stage of excitement is usually absent and when present is greatly lessened both in intensity and duration. The reflexes are not abolished and the patient can cough or swallow; usually the patient is able to answer questions intelligently and can always be aroused. The day after the operation the majority of patients have no recollection of what happened in the operating room.

This method, properly used, is not as dangerous as popularly supposed. In 1923 Cottis sent a questionnaire to all the men he knew who used this method. Thirty-seven answered, reporting a total of 7,073 cases with only six deaths—four of these deaths were reported by the surgeons as not due to the anesthesia, one was attributed to an error in dosage and one was not accounted for. It should be noted that these cases included a large number of hyperthyroidic and exophthalmic goitre patients, as well as some hernias and asthmatics. Last year Beck, Pollock and Lederer reported 2104 cases, with only one fatality—and that one due to hemorrhage. Since the adoption of the ether-oil method

no hemorrhage from the bowel has been reported.

This method is contraindicated in any diseased condition of the colon or intestine, hemorrhoids, ulcer and fistula-in-ano. It is not suitable for emergency work.

TECHNIQUE.

The second night before the operation the patient takes a cathartic. Light diet is advised for the following day. The patient enters the hospital the night before the operation, is given a soapsuds enema at bedtime and nothing by mouth after midnight. Two hours before the operation a tap water enema is given, followed in forty-five minutes by subcutaneous or intramuscular injection of 2 cc. 50% sol. magnesium sulphate and 2.5% sol. novocain with ¼ gr. morphine sulphate. One hour before operation the patient is placed in the Sims position and a mixture of ether 2 oz., paraldehyde 2 drs., alcohol 1½ drs. and olive oil 2 oz. introduced through a rectal tube. The mixture should be given in small amounts and very slowly. The tube is then clamped and allowed to remain. The patient then lies on his back, a towel placed over his eyes, the room darkened and absolute quiet maintained. From the moment the hypodermic is given until the patient has completely recovered, it is most important that the patient have the constant attention of a very capable nurse. The full analgesic effect is usually attained in forty to sixty minutes.

In the operating room, quiet must be maintained. It is occasionally necessary to give a small amount of ether by the inhalation method "to get the patient under" (when it is discontinued) but this has not been necessary in my experience. If the skin is to be incised it is sometimes necessary to inject novocain along the line of incision. In either case a very small amount is sufficient.

The dosage mentioned above is for an adult weighing 135 to 150 pounds; for larger patients the ether and oil may be increased but the paraldehyde and alcohol remain constant. I would not advise more than 3½ oz. for any patient and the mixture should not total more than 8 oz. or it is liable to be expelled.

Beck, Pollock and Lederer advise using 3 injections of ⅛ gr. morphine sulphate in 2 cc. 50% magnesium sulphate and 2.5% novocain solution, given at thirty minutes intervals; the ether-oil mixture is given at the same time as the last hypo.

During the operation the patient should be as closely watched as in any other type of anesthesia. Should the patient be too deeply anesthetized the danger signs, in the order of their occurrence, are loss of corneal and swallowing reflexes, shallow respiration, slight cyanosis, stertor or embarrassed respiration and weak pulse. Should these symptoms appear, the clamp should be removed from the rectal tube and pressure made over the sigmoid colon; then flush the colon with a warm solution of strong coffee. Much of the other mixture will be recovered.

After the operation the tube is removed and the colon flushed out with a warm solution of coffee before the patient leaves the operating room. The patient usually sleeps for two or three hours and does not complain of pain.

The following cases will serve as an illustration:

John Williams, negro, male, married, age 42.

Diagnosis: Squamous cell carcinoma, originating from the left middle turbinate and filling the left naris.

Operation: Removal of neoplasm, preparatory to using radium. The patient was operated upon on the morning of December 4th.

There was free hemorrhage, necessitating fast work, and following the operation the nose, of necessity, was very tightly packed. During the operation the patient was able to expectorate the blood that ran down his nasopharynx and could be aroused to answer questions. He slept till late in the afternoon and was quiet and comfortable during the night.

This method is fairly simple and the patients usually get along splendidly, yet the patient at all times must be carefully watched and every precaution taken. Beck

recommends using a professional anaesthetist thoroughly trained in this method, but this is out of the question for those in small communities who use it only occasionally. A capable nurse working under personal supervision should, I believe, be able to handle the cases properly.

While the term "Rectal Anesthesia" is popularly used, I think it is a misnomer, as "anesthesia" suggests loss of reflexes and consciousness. Beck described his work as "Synergistic Analgesia," stating that the anesthesia depends, not on the ether or the morphine, but on the combination, with morphine the major factor, drawing his conclusion from animal experiments. However, "Synergistic Analgesia" is a rather broad term, covering various combinations. On the whole, I think "Rectal Analgesia" would be a better term.

In conclusion, it is not my intent to suggest this method instead of a local anesthesia, but merely to add it to our anesthetic armamentarium—to suggest another method in cases suitable for local or inhalation anesthesia.

DISCUSSION.

Dr. L. S. Gaudet: Doctor Jones has given us a very interesting and very important paper. It has been my good fortune to assist Dr. C. W. Allen, and he has used it with beautiful results. It has been my good pleasure to spend a month in Doctor Beck's clinic in Chicago, and I had full opportunity to observe a number of cases of his; synergistic analgesia, just as Doctor Jones outlined, is the method he used. First of all, whether it is synergistic analgesia or rectal anesthesia, it is absolutely necessary that we choose our cases, and choose them very carefully. I remember one time I had a malignancy of the base of the tongue with one gentleman, and we tried rectal anesthesia on him, because his surgeon had given thirty or forty cases of rectal anesthesia with good results and insisted we have rectal anesthesia. Unfortunately he gave this rectal anesthesia, and we had finally to use ether to put him to sleep, because first of all our surgeon, who so positively said we must have rectal anesthesia, failed to remember that this man was a hard drinker, and in cases of alcohol or other addicts, you will not get good results.

The next thing, as Doctor Jones has said, we must have co-operation. It is necessary, if you work in a small community, to have one or two assistants whom you shall train to co-operate with you that you might get the results, because you cannot do this work as you do with a general anaesthetic with ether, owing to the fact that these patients have to be watched, and those who watch them have to know their business. From the very moment you start on these cases they must not be left alone. In the case of synergistic anesthesia, Doctor Beck did all kinds of operations. I assisted him myself, and in the majority of cases we got perfectly beautiful results. The patient would be lying there sleeping; if you would talk with them, they would talk with you, and tell you yes or no, whether you hurt or not; but most of the time slept on, and usually got off of the table in good condition. You must watch the patients that they don't get an over-effect of ether. In my mind, in our communities, we haven't got to the point where we have been able to work out a system or plan whereby we can do more work by rectal anesthesia or synergistic analgesia. In our communities we have one or two small institutions, and the nurses and doctors in these institutions do not have time to co-operate because they have lots of work to do. But to make a success of it, you have to have a highly trained assistant; otherwise, you will have a great many fatalities. Doctor Jones has given us a very interesting paper, and I hope that we might have Doctor Pollock or Doctor Lederer come before our session and give us a talk later on, on the subject.

Dr. D. C. Montgomery: Personally, I have had no experience whatever with rectal anesthesia, and am not competent to talk on this paper. I think, however, that probably it will come more into use than it has been in the past. Most of us are so situated that we haven't the competent services, or the competent assistance, or the expert methods, that it requires. So far, I have been able to get along without rectal anesthesia with very good success. However, I know we all appreciate this paper, and perhaps in the future we will be able to handle it better, when better equipped.

Dr. John J. Shea. I have had a goodly number of anaesthetics of this type, and I am a great admirer of it, not always using the full dosage, and I find it is an ideal anaesthetic under these conditions. For instance, in doing a radical antrum, if you can do it under local anaesthesia the major part of the operation is done away with, because the bleeding is minimized; you can do it in a few minutes with perfect ease, and it is a rather simple operation; whereas, to care for that same patient under a general anaesthetic is a job. Quite often the patient will object to letting you do it with the nerve block, and will ask that it be done

under general anaesthetic. It is in that type of case that a partial rectal anaesthesia is an ideal thing. I do not mean to put them in a state of surgical anaesthesia, but to put them to the point where they will not resist what you do. For that we give them one ounce of ether, one ounce of olive oil and one dram of paraldehyde for every fifty pounds of weight; and if the patient weighed 110 pounds, we would give them two ounces of ether, two ounces of olive oil, and two drams of paraldehyde. Quite often, though, instead of giving them the straight morphine, we give them the H. M. C. I know of nothing that has been a better help in sinus work than the rectal anaesthesia.

Dr. E. F. Howard: Doctor Gaudet and Doctor Shea have both brought out the point I wanted to know. I read Beck's article with a great deal of interest. He uses three-eighth grains of morphine, 3 ccs. fifty per cent magnesium sulphate solution and 150 milligrams of novocain hypodermically and he puts in three ounces of ether with three ounces of olive oil and two drams of paraldehyde. The 3/8 morphine is a pretty fair dose and the 150 milligrams of novocain is a pretty fair dose, when you remember the committee on local anaesthetics had reported to it one case where the patient died from 162½ milligrams; and then the dose of paraldehyde is fairly heavy. It has always struck me that if we follow along the lines of such dosage as that, and I judge that was a sort of set dose for a 150 pound man, we are going to have some killings, and I am afraid we will. Beck had two reasons for using this method. He wanted to devise a method he could use in those cases in which he wanted to get the hands and the apparatus of the anaesthetist away from the operative field, which, of course, is desirable. His other reason was that the committee on local anaesthetics had forbid the use of any solution of cocain greater than ten per cent, and he couldn't get away with the ten per cent solution, and he felt himself called upon to abide by their decision. Of course, to his first reason there can be no exception; but to use such a method in a nose case that could be operated on, by local anaesthesia, with a dose of cocain, that we concede to be safe, or to take out of a pair of tonsils under such anaesthesia when the novocaine alone is more than is necessary when used locallly, unless you want to drown your patient, is beyond my powers of reason. My loyalty does not take me that far, especially if I can live within the realm of one of their rules, less than the 100 milligrams of cocain, by using the stronger concentrations. The question comes to me whether, if we limit ourselves to those cases where we want to get away from the operative field or the patient won't stand for local anaesthetic, or the local anaesthetic is not advisable—are we going to have enough of those cases ourselves to make us at all proficient in the use of this synergistic method? If Beck, after two thousand cases, still wants a skilled anaesthetist, what is one of us poor fellows down here going to do; especially when we remember that if Beck has a death from anaesthesia, that is only one case to mess up his records while with us it is a professional knockout. Aside from the standpoint of selfishness I have also the question of whether we want to tackle a thing that we are really, I feel, not qualified to handle, and will never have sufficient experience to enable us to qualify.

Dr. E. H. Jones: There are several little things here that this discussion has brought out that I want to emphasize over again. Doctor Beck's experience is greater than that of anyone I know of. I am certainly not standing up here trying to tell you of mine, because mine has been very limited, but it has been entirely satisfactory. Doctor Beck said when they had to incise the skin they frequently had to inject novocain solution, and when they did so, a smaller amount than normal was required; further, that in those cases where ether was used by the inhalation method a much smaller amount was required. He also included in his report the fact that some were over anaesthetized, and, it is very interesting to note, that in some cases he flushed out the colon and allowed them to stay there until they had sufficiently recovered to be operated.

Now, this discussion also brought out that this does not work well in cases of alcoholics. I haven't operated on any alcoholics, but Beck says specifically it worked well on alcoholics.

Another thing is the 3/8 grain of morphine. That is a large dose, but 3/8 of a grain of morphine was given, 1/8 at a time, thirty minute intervals, under careful observation.

It is not my purpose to suggest this method instead of local; it is not as convenient, and there are other factors, but there are many cases where it is ideal—I remember one case I operated on under local, and I wished many times since I had used rectal. It would not seem to me necessary to have a trained anaesthetist to observe one case, if you have a capable nurse and give it your personal supervision. Beck wants a trained anaesthetist, because he is not doing one case a day, but a half dozen, and he can't stay and watch each one of those cases. If we only have one case a day, and have a capable nurse or assistant to turn it over to under our supervision, it would certainly appear safe.

In conclusion, this is a new method, but we always have to be on the lookout for new methods, and those which prove unsatisfactory we must discard and look for others.

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DR. MORRIS FISHBEIN'S TOUR.

A recent event of more than passing interest was the speaking tour of Louisiana made by Dr. Morris Fishbein, Editor of the *Journal* of the American Medical Association and *Hygeia.* The itinerary undertaken on the joint invitation of the Journal Committee of the Louisiana State Medical Society and the President of the Society, included Shreveport, Monroe, Alexandria, Opelousas, Lafayette, Baton Rouge and New Orleans.

In each place the arrangements were made by the Councilor in co-operation with the District Medical Society.

The first address at Shreveport, one before the members of the Fifth District Medical Society, was delivered in the City Hall at 4:00 p. m., December 6th. The subject was "Fads and Quackery." The same day at 8:00 p. m., Dr. Fishbein spoke to the general public at the First Methodist Church on "Twenty-five Years of Medical Progress." Both addresses were very well received. At the night meeting, notwithstanding the place, liberal applause was the tribute of the audience, both at the close of the address and after questions had been put to the speaker and answered.

At Monroe the Fourth District Medical Society heard a talk on "Cancer Cures" at 11 a. m., and another on "Business Ethics and Medical Ethics" at 2:30 p. m., both at the Virginia Hotel. At 3:30 Dr. Fishbein addressed the High School students on "Positive Health."

At Alexandria, there was an address to the High School students on "Positive Health," and one before the Eighth District Medical Society at the Hotel Bently on "Business Ethics and Medical Ethics," with some remarks on "Periodic Health Examinations."

The address on "Fads and Quackery" was repeated before the Seventh District Medical Society at Opelousas, with an addendum on "Cancer Cures," and before the Third District Medical Society at Lafayette.

The Baton Rouge meeting (Sixth District) was held at Carville, in the United States Leprasarium.

The final meeting was in New Orleans Friday, December 10th, 8:00 p. m. Both of these meetings heard the address on "Twenty-five years of Medical Progress."

At all the meetings the putting of questions by the audience, whether lay or professional, was a feature of the event.

Dr. Fishbein's visit, which culminated in his attending as a guest the annual dinner of the Orleans Parish Medical Society on December 11th, was of inestimable value to medical organization in the State. It

freshened the bonds that unite the several local organizations into the State Society, and this in turn with its peers into the national body of ethical physicians. The success of the tour was largely due to Dr. Fishbein's thorough acquaintance with his subjects, his straightforward, unwavering attitude on ethical points, and his easy good fellowship. We are glad to have had him with us and hope that at no distant day he may again visit the scene of his successful swing around the circle.

"SKILLED IN SANITARY SCIENCE"

This is the qualification laid down by the laws of the State of Louisiana with reference to men who undertake the duties of a parish health officer in this State. Many of the letters coming to the State Board of Health from part-time health officers who are groping their way in abject ignorance of their functions afford convincing evidence of the mockery that is being made of so serious a question as health.

According to the death records for 1924, which are the latest data given in the biennial reports of the State Board of Health, there were in that year 24,892 deaths in Louisiana, and of this number 8,407 were due to diseases whose prevention and control come within the scope of adequate local health service. Despite the fact that more than a third of the current deaths, as shown by these figures, are in a sense unnecessary, in most of the parishes the all important job of health conservation either goes begging for want of sufficient compensation, or is handed out to someone as a settlement of a political debt. It is no wonder, therefore, that men "skilled in sanitary science" are exceedingly rare in the office of parish health officer. The part-time health officer receiving $25.00 to $50.00 per month is not to blame for being unskilled in sanitary science. He has a living to make, which is not afforded by so meagre a salary. He can not afford to prepare himself properly for the job, nor could he afford to spend the necessary time on it if he were properly prepared. In one sense he is deserving of abundant sympathy and assistance, which, of course, the State Board of Health always gives to the fullest extent. But in a broader sense he merits a large measure of blame, for this one thing,—namely, that he should accept a grave responsibility which he is totally unprepared to discharge as it should be done. It would be almost unthinkable for a doctor not highly skilled in surgical procedure to attempt an operation having a mortality of over 33%, and yet the same responsibilities on a much larger scale are being assumed by part-time health officers quite generally and quite thoughtlessly. When physicians of the State will stubbornly refuse to accept positions for which they are not sufficiently equipped, both as to training and time, the public will begin to understand the seriousness of toying with such a vital issue as health conservation.

While physicians unskilled in sanitary science are at fault in essaying a task which they know they can not adequately perform, the prepondering burden of criticism is upon the public for trying to purchase health and safety at bargain prices. Although the evidence indicates that one out of every three deaths in Louisiana might be prevented by proper health service, the public is entitled to but scant sympathy for such terrific loss. When it is known that health is to a large degree purchaseable, and a community through its officials appraises the prospect of saving one-third of its current deaths at $25.00 per month, unnecessary deaths are to be expected, if not quite heartily deserved.

It is, of course, hardly possible by the investment of money in health service to stop all the waste of human life and health. However, no Police Jury has discharged its duty to its people until it has made a reasonable investment of money, sufficient, at least, to secure the services of a doctor "skilled in sanitary science," who shall give his full time and undivided attention to the business of preventing disease and promoting health.

THE FAMILY DOCTOR.

Christmas cheer, the sages say
Comes once a year on Christmas day,
With peace on earth to those whose will
Is not employed in doing ill.

We've heard this song for years and years,
Sometimes with laughter, oft with tears,
We've seen the doctor on this day
Through snow and ice his visits pay.

And faithful to his honored name,
To rich and poor and pampered dame,
Indifferent to the place and hour,
He gave the best within his power.

In country, city, mountain, dale,
To those who'd hit the sunset trail,
The doctor in his gig was there,
His presence only, soothing care.

They say that times do change, alas,
And people, customs, methods pass
Into that limbo from whose bourne
'Tis quite well known they ne'er return.

Behold him now, our patient Doc,
This man of science feels the shock
Of modern progress, and his rounds
Are made with ease when mud abounds.

He hails his car and chauffeur, too,
And steers his way through marsh and slough;
He does his duty just the same
To rich and poor and fussy dame.

But anyhow we often feel
Our doctor's changed; the old appeal
Seems gone, and now we find
A slightly altered state of mind.

The trusted friend of childhood days,
Has given place to one whose ways
Are tempered with the unwelcome chill
Of cold commercialism against his will.

Aye! Times DO change and people, too;
The past has gone; now comes the new.
But after all, we're bound to see
The same old spirit 'round the Christmas tree.

—*Oscar Dowling.*

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

During the month of December there has been held one meeting of the Board of Directors, two Special meetings, and the Stanford E. Chaille Memorial Oration.

One Special meeting was called in honor of Dr. Morris Fishbein, Editor of the Journal of the American Medical Association and the Health Magazine Hygeia, published by the American Medical Association, who gave a very interesting talk on "Twenty-five Years of Medical Progress." Dr. Fishbein was sponsored by the Louisiana State Medical Society and the New Orleans Medical and Surgical Journal on a tour through Louisiana.

A second Special meeting was called by the President on Tuesday, December 21st, 1926, to vote on a resolution giving the President and the Treasurer power to transfer the Government Bonds we now have in our possession, also to vote on the report of the Judiciary Committee in re. case of Drs. Otto Braun, A. Mattes and M. S. Rosenthal, who were charged with Unprofessional conduct. These Doctors were suspended from the Society until October 1st, 1927.

The First Stanford E. Chaille Memorial Oration was held on Monday, December 13th, 1926, Dr. Allen C. Whipple, Professor of Surgery of Columbia University, New York, being the orator. The title of his paper was "The Spleen and Its Relation to Blood Dyscrasias."

The Annual Election of the Society was held Saturday, December 11th, 1926, which resulted in the following being elected as Officers for 1927:

Dr. A. E. Fossier, President.

Dr. John F. Dicks, First Vice-President.

Dr. C. Grenes Cole, Second Vice-President.

Dr. E. L. King, Third Vice-President.

Dr. H. Theodore Simon, Secretary.

Dr. John A. Lanford, Treasurer.

Dr. Daniel N. Silverman, Librarian.

Additional members Board of Directors:

Dr. Fred L. Fenno.

Dr. Maurice J. Gelpi.

Dr. Emmett L. Irwin.

The regular Scientific Meeting scheduled for December 27th was dispensed with on account of confliction with the Christmas holidays.

The following Doctors were elected to Active Membership in the Society: Drs. Harold O. Ernst, Philip H. Jones, Jr., Ralph W. Mendelson, Philip Montelepre, L. W. Magruder, Florena G. Rich, Joseph F. Sicomo, and Daniel D. Warren.

The following Doctors were elected to Interne Membership: Dr. Chas. D. Peavy and Dr. A. R. Sims.

Dr. Hamilton P. Jones, a member of this Society, died on December 5th, 1926.

The membership of the Society to date is 485.

Report of Treasurer

November

Actual Book Balance 10/30/26	$2,381.04
Receipts during November	418.85
Total Receipts	$2,799.89
Expenditures	1,449.12
Actual Book Balance	$1,350.77
Outstanding checks	55.50
Bank Balances 11/30/26	$1,406.27

Report of Librarian.

November

One bibliography has been prepared during the month on the subject: Echinococcic Cysts of the Liver. This list has been filed for subsequent use.

Sixty volumes have been added to the library. Of these 38 were received by gift, 10 by purchase and 12 from the New Orleans Medical and Surgical Journal.

The Library has been the recipient of book gifts during the month from Dr. H. J. Otto and Dr. P. B. McCutcheon. Letters of appreciation have been written to these donors, expressing the gratitude of the Society for their co-operation. A list of titles of recent date is appended:

New Books.

November, 1926

Power—Chronologia Medica. 1923.

Hill—Manual of Proctology. 1926.

Wyeth—Surgery of Neoplastic Diseases. 1926.

Morgan—Electrothermic Methods in Neoplastic Diseases. 1926.

Bartlett—Surgical Treatment of Goiter. 1926.

Sampson—Practice of Physiotherapy. 1926.

Potter—Materia Medica, Pharmacy and Therapeutics. 1926.

Osler—Modern Medicine. v. 3. 1926.

Dana—Peaks of Medical History. 1926.

Lorand—Defective Memory, Absentmindedness and Their Treatment. 1926.

Gould—Medical Dictionary. 1926.

Dickson—Rational Gland Therapy for Women. 1926.

Holmes—Roentgen Interpretation. 1926.

Medical Aspects of Gas Warefare, by various authors. 1926.

U. S. Public Health Reports. V. 41, pt. 1. 1926.

International Congress of Military Medicine and Pharmacy. 1925.

A. M. A. Council on Pharmacy and Chemistry. Annual report. 1925.

A. M. A. Council on Pharmacy and Chemistry—Annual Reprints of Reports. 1925.

A. M. A.—New and Non-official Remedies. 1926.

H. THEODORE SIMON, M. D.,
Secretary.

A DOLLAR OR TWO.

With cautious steps
As we tread our way through
This intricate world
As other folks do,
May we on our journey
Be able to view
The benevolent face
Of a dollar or two.

No friend is so true
As a dollar or two,
No help sees you through
Like a dollar or two;
In a country or town
As you walk up and down,
No passport compares
With a dollar or two.

Would you rid yourself ere
Of the bachelor crew
And for the hand of some
Female divinity sue;
Have a place in the church
With a well cushioned pew
You must always be ready
The handsome to do—
Pay down on the nail just
A dollar or two.

Love's arrows are tipped
With a dollar or two,
Salvation is gained by
A dollar or two,
And men have been buried
And covered with dew,
All for the sake of a
Dollar or two.

And when with the cares
Of this world you are through
And the loves and the joys
And the rest of it, too,
You awake to the fact
That the thing still to do
Is to smooth out the way
With a dollar or two.

What risks you would run
For a dollar or two,
Crook a leg, wag a tail
For a dollar or two.
There's naught you can do
If you want to get through
But bow down your head
To a dollar or two.

At last at the gate
Of St. Peter you stand
With a look of submission,
A harp in one hand;
He will squint at the other
And the devil takes you
If it doesn't encircle
A dollar or two.

You may howl like a Jew
For a dollar or two,
On your knees you may sue
For a dollar or two
But Paradise Lost
Is what it will cost
If you can't come across
With a dollar or two.

For aeons of time
He'll condemn you to dwell
In the hot antechamber
Of old Satan's Hell,
Till one of the imps shall
Take pity on you
And passes the hat
For a dollar or two.

—L. C. S.

LOUISIANA STATE MEDICAL SOCIETY NEWS

H. Theodore Simon, M. D., Associate Editor.

ADDRESS OF DR. MORRIS FISHBEIN IS FEATURE ON PROGRAM OF THIRD DISTRICT MEDICAL SOCIETY.

Dr. Morris Fishbein, of Chicago, editor of the Journal of the American Medical Association, and contributor to other publications and an international figure in the medical world, was the principal speaker at the meeting of the Third District Medical Society, held in Lafayette Thursday night.

Physicians from various parts of the Third Congressional District met at the Elks' Home at 7:30 o'clock for a program which preceded a banquet at the Terrace Hotel.

Dr. H. A. Eldredge, of Abbeville, first vice-president of the Society, opened the meeting and presided in the absence of the president, Dr. Harold G. F. Edwards of this city, who is attending clinics at the Mayo Brothers Sanitarium at Rochester, Minn. Dr. R. D. Voorhies, of this city, who is secretary and treasurer of the society, and Dr. Frank Gouaux, of Lockport, who is Third District Councilor of the Louisiana State Medical Society, were also among those taking part.

Dr. Eldredge presented Dr. Gouaux, councilor, who spoke of the pleasure of the society in having Dr. Fishbein, Dr. Blackshear and other visitors in attendance. He then presented Dr. Blackshear, who is a prominent physician of New Orleans.

The State Medical Society head told of the tour which he and Dr. Fishbein had been making during the past week, during which a number of cities in this state have been visited. He spoke of the prominence of Dr. Fishbein in the medical world and of the interest which had been created by his visit to Louisiana. He then presented Dr. Fishbein.

Speaking on the theme of "Fads and Quackery in Medicine," Dr. Fishbein referred to a number of movements which are opposed by the medical profession as represented in the American Medical Association. "There are 137 forms of quackery in the United States," said the speaker. Touching upon which he termed "fads" in medicine, Dr. Fishbein said that the American Medical Association is opposed to secrecy being maintained in connection with new or improved treatments discovered from time to time, and referred to some reported discoveries, particularly those for treatment of cancer. He told of steps which had been taken by the American Medical Association to expose certain alleged cancer cures.

Speaking of the standards adopted by the American Medical Association, Dr. Fishbein said that those entering the medical profession are required to complete two years of college work, four years in a medical school, and one year as interne, and compared this length of time with much shorter periods in which he said those engaged in movements not recognized by the physicians were allotted to complete their training.

On motion of Dr. W. F. Carstens of New Iberia, Dr. Fishbein was extended a rising vote of thanks for his presence and his address.

An invitation extended by Dr. C. C. DeGravelle, of Morgan City, to have the society hold its next meeting in that city, was accepted.

At the Terrace Hotel, where the members and their guests gathered later for a banquet, an excellent five-course menu was served. There was also a program of informal talks, with Dr. Eldredge presiding as toastmaster.

Dr. Fishbein, speaking at the banquet, gave details of the work of the American Medical Association, particularly in the matter of arranging for radio addresses, newspaper articles and other features impressing upon the public the importance of health matters. He endorsed the idea of physicians visiting the schools and making health talks, a subject which was referred to by one of the other speakers, Dr. DeGravelle of Morgan City.

Dr. K. E. Miller of the U. S. Public Health Service, who is accompanying Dr. Fishbein, Dr. Blackshear, and Dr. Hermann Gessner of New Orleans, on the tour this week, brought greetings from Dr. Oscar Dowling, President of the State Board of Health, who expressed regret at being unable to be present.

Dr. Gessner, who is chairman of the committee in charge of the publication of the New Orleans Medical and Surgical Journal, issued in connection with the work of the state medical society, told of the progress made in the publication and of the plans for the future.

Dr. J. R. Olivier, dentist, of St. Martinville, who was among guests at the meeting, urged closer co-operation between physicians and dentists. Inquiry developed that members of the dental profession may become associate members of sectional medical groups, and Dr. Olivier was voted an associate members of the Third District Society. Announcement was made that an invitation was extended to other dentists to become associate members.

Other speakers at the banquet included Dr. R. D. Voorhies, Dr. C. P. Daly, Dr. M. E. Saucier, and

Dr. L. O. Clark, of this city; Dr. W. F. Carstens, of New Iberia; Dr. J. T. Abshire of Kaplan, and Dr. Blackshear who expressed his congratulations over the success of the meeting and for the interest and co-operation which had been shown.

IBERIA PARISH MEDICAL SOCIETY.

The Iberia Parish Medical Society held its annual meeting on December 16th in New Iberia, La., and elected the following officers for the year 1927.

President, Dr. P. A. Boykin, Jeanerette; Vice-President, Dr. H. A. King, New Iberia; Secretary-Treasurer, Dr. W. F. Carstens, New Iberia; Delegate, Dr. Guy A. Shaw, Loreauville; Alternate, Dr. P. A. LeBourgeois, Jeanerette.

This society, through its efficient Secretary-Treasurer, Dr. W. F. Carstens, boasts a 100% membership in the Louisiana State Medical Society.

LAFOURCHE PARISH MEDICAL SOCIETY.

The Lafourche Parish Medical Society met in Thibodaux, La., December 16th, 1926, and elected the following officers for 1927:

President, Dr. Charles Barker, Thibodaux; Vice-President, Dr. Albert Meyer, Thibodaux; Secretary-Treasurer, Dr. Philip Dansereau, Thibodaux; Delegate, D. J. J. Ayo, Raceland; Alternate, Dr. Charles Barker, Thibodaux.

OPELOUSAS MOURNS DEATH OF CORONER

Military Funeral Given Dr. R. M. Littell, Leader in St. Landry.

Opelousas, December 4th, paid its final tribute to Dr. Robert M. Littell, veteran coroner of St. Landry Parish, where he was leader for many years, whose burial took place on the above date. He was one of the best known citizens of southwest Louisiana, and at one time was captain of the military company in Opelousas. Dr. Littell, who died Friday, was given a military funeral, and the Elks, of which he was a member, also attended in a body. All business houses were closed during the hours of the funeral.

Funeral services were conducted at the Catholic church and interment was made in the Catholic cemetery. Dr. Littell is survived by his wife, two daughters and two sons, Miss Eleanor Littell and Mrs. Percy Walker, Bryan Littell, all of Opelousas, and Dr. Ike Littell of Alexandria; three brothers, Dr. B. A. Littell and Leonce Littell of Opelousas, and Dr. Theo. H. Littell of Ville Platte; three sisters, Mrs. Florence Wartelle of Opelousas, Mrs. K. T. Catlette of Rosa, La., and Mrs. Katie Samson of Houston, Tex.

The funeral cortege left the residence at 4 o'clock followed by the Elks and local military company and a large concourse of friends.

At the annual convention of the Radiological Society of North America, held in Milwaukee from November 29th to December 3rd, 1926, Dr. Amedee Granger was presented with a gold medal which was awarded in recognition of his work on the sphenoidal sinuses, and the additional honor of being made Vice-President for the coming year was also conferred upon him.

Dr. Granger is too well established in this section of the country to need an introduction. He is head of the Department of Roentgenology of the Graduate School of Medicine of Tulane University of Louisiana and in charge of the X-ray Department of the Charity Hospital.

The event of the month in medical circles in the Fourth District was the visit to Shreveport, on the 6th of December, of Drs. Fishbein, Blackshear and Gessner. Dr. Fishbein spoke to the doctors of the district, in the afternoon, very interestingly and instructively, on "Fads and Quackery." In the evening, he addressed the public on "Twenty-five Years of Medical Progress." On both occasions, he was introduced by President-elect Herold of the State Society. On December 7th, Drs. Fishbein, Gessner, Blackshear and Herold motored from Shreveport to Monroe, where they were guests of the Ouachita Parish Society, at the semi-annual meeting of the Fifth District Medical Society, which was addressed by Dr. Fishbein.

The annual meeting of the Shreveport Medical Society was held on Dec. 7th. Election of officers resulted as follows: President, I. B. Rougon; First Vice-President, R. S. Douglass; Second Vice-President, R. T. Lucas; Secretary, E. L. Edwards; Treasurer, J. R. Stamper; re-elected Delegates to State Society, L. Abramson, W. P. Butler, A. P. Crain, R. G. Douglass, J. E. Knighton, E. L. Sanderson.

Dr. Louis Abramson of Shreveport was elected president of Cotton Belt Railway Surgeons' Association at the meeting recently held in Texarkana.

The Tristate Medical Society of Arkansas, Louisiana and Texas will meet in Texarkana Jan. 18-19, 1927. A good program has been arranged. Any one interested should communicate with Dr. F. H. Walke, Secretary, Ricou-Brewster Bldg., Shreveport.

It is with regret that we chronicle the death of Dr. Henry Baucum, well-known physician of Haynesville, who died suddenly in December.

The semi-annual examination of the Louisiana Nurses Board of Examiners was held in New Orleans and in Shreveport, November 2-3, 1926.

The successful applicants are: Annie Laurie Allen, Regina Marie Arseneaux, Julia Carolyn Barber, Celine Lydia Bergeron, Elizabeth Frances Blackburn, Marie Eva Blanchet, Gladys Louise Boudreux, Nellie Hester Breithaupt, Henrietta Elizabeth Brewster, Myrtle Buell, Margaret Jean Carroll, Lena Belle Cole, Edna Bernice Cranford, Elizabeth Louise Davis, Rosa Leona Doherty, Ellen Josephine Donahue, Rubye Almata Dotson, May Cecile Dugas, Honorine M. Duplantis, Lodoiska Latimer Durrum, Ethel Marguerite Eells, Emma Wilson Emery, Rose Mary Fagan, Irene Henerietta Fairbanks, Ann Firmin, Gertrude Mary Folse, Julia Mary Folse, Jeanne Antoinette Gautreaux, Doris Gholston, Helen Yvonne Girouard, Clemence Caroline Guidry, Marguerite Adele Harvey, Elma Anne Hebert, Lessie Levenia Hosey, Vivian Lee Humphrey, Elvera Carmelina Ivulich, H'Omera Vaughn Johnson, Ruth Ashmore Jones, Laura Louise Kenison, Oma Knowes, Beatrice Carrie Landry, Louise Margaret Maybeno, Addie Mable Mayon, Adele Agatha Memtsas, Hortense Mendelson, Nellie Theresa Milburn, Fanny Helen Moore, Lillie Moss, Adrienne Mouton, Mary Elizabeth Guice Nell, Hatherine Walker Newbill, Edyth Emma Osgood, Lauda De Nyse Paris, Martha Iverson Patrick, Willie Ann Paxton, Henrietta Ethel Pharr, Vera Cicely Pike, Katie Rachel, Miriam Theresa Raport, Bobbie Edna Reiter, Jane Alice Richard, Josephine Marguerite Salome, Emma Lila Sawaya, Mary Ola Scarborough, Lucy Lee Schmidt, Mona Lee Shaw, Othilie Skaara, Mary Beatrice Sullivan, Sister Mary Brigid Broussard, Sister Urbana Crossan, Sister Mary Magdalen Lemoine, Sister Philomena Nauer, Ethelyn Mary Thiery, Alaska A. Torrey, Helen M. Sinclair Turner, Olive Elise Wakefield, Balmer Jane Waldrum, Grace Warren, Evelyn Sargent Waters, Marion Elizabeth Whittington, Cora Bivin Busey Wilson, Margaret Knoll Wilson, Pearl Lois Yeates, Anna Lee Anders, Cora Baillio, Rose Mary Baird, Addie Bourgeois, Clara Jessamine Brandon, Jessamine Carroll Brown, Viola Brown, Alyce Helen Charlan, Marie Lellia Charleville, Marie Aydell Daudmon, Annette Day, Dimple Eda Dean, Anita Isabel Discon, Sadie Emily Stilphen Harkness, Colimen C. Magnon, Mary Selvina Major, Addie Pauline Merritt, Anita Clarice Mixon, Ardys Nesmith Nettles, Jessie Mae Nichols, Eva Gladys North, Inez Angela Perry, Ethel Marie Robeau, Rae Venable, Zelia M. Waters, Anne Whiteway, Rosa B. Hodge Wininger.

Colored applicants: Jessie May Bowman, Myrtle Mae Hilliard, Mellie Kay Smith, Helen Olivia Thomas.

NORTH AMERICAN PHYSICIANS ARE INVITED TO VISIT THE CLINICS OF EUROPE AGAIN IN 1927.

In May next year a group of physicians with members of their families from the United States and Canada, under the direction of the Inter-State Post Graduate Medical Association of North America, will sail from New York to visit the following leading medical centers of the Old World:

London, Edinburgh, Oslo, Stockholm, Upsala, Lund, Copenhagen, Hamburg, Leipzig, Munich, Strasbourg, Heidelberg, Frankfort and Paris.

This will be the third year that foreign assemblies have been conducted under the auspices of this organization. Those of 1925 and 1926 were exceedingly successful and of great benefit to the physicians who took advantage of them. No doubt the 1927 assemblies will meet with equal success.

In including Norway, Sweden and Denmark, in the itinerary, the Association is offering the profession an exceptional opportunity to visit and study in some of the finest clinics in the world.

The group of physicians will be limited to a number that can be comfortably accommodated in the clinics which will cover the entire field of medical science.

The price of the trip will be kept as low as possible and yet furnish first-class accommodations. It will be between $1000.00 and $1100.00. All physicians who are in good standing in their State or Provincial Society may register. Further information may be obtained from the Managing-Director, Dr. William B. Peck, Freeport, Illinois, or the Travel Department of the American Express Company, 65 Broadway, New York, N. Y., who have charge of the transportation.

ALVARENGA PRIZE OF THE COLLEGE OF PHYSICIANS, PHILADELPHIA.

The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about Three Hundred Dollars, will be made on July 14, 1927, provided that an essay deemed by the Committee of Award to be worthy of the Prize shall have been offered.

Essays intended for competition may be upon any subject in Medicine, but cannot have been published. The essay should represent an addition to the knowledge and understanding of the subject based either upon original or literary research. They must be typewritten, and in English accept-

able for publication without necessity for editing by the Committee. Any illustrations should be appropriate and correctly annotated with the text. Essays must be received by the Secretary of the College on or before May 1, 1927.

Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author.

It is a condition of competition that the successful essay or a copy of it shall remain in possession of the College; other essays will be returned upon application within three months after the award.

The Alvarenga Prize for 1926 has been awarded to Dr. P. S. Pelouze for his Essay entitled "The Gonophage."

JOHN H. GIRVIN, Secretary,
19 South 22d St., Philadelphia, U. S. A.

Dr. H. D. Ogden, of the Graduate School of Medicine of Tulane University, addressed the meeting of the Washington Parish Medical Society at Bogalusa, Wednesday, November 24th, 1926, on "Pyelitis and Other Infections of the Kidney."

Dr. Hilliard E. Miller, of the Graduate School of Medicine of Tulane University, addressed the meeting of the South Mississippi Medical Society at Hattiesburg, Thursday, December 9th, 1926, on "The Management of Certain Obstetrical Problems."

At the meeting of the Association of Surgeons of the Illinois Central System held at Biloxi, on December 3rd and 4th, 1926, papers were read and discussed by Drs. E. Denegre Martin, Henry Daspit, Robert Bernhard and C. P. Brown, members of the faculty of the Graduate School of Medicine.

The removal of Dr. Tilly's Clinic, Diagnostic & Therapeutic, to 1428 North Claiborne Avenue at Esplanade, is announced.

The new staff is as follows: Dr. Wilton P. Tilly, Medical Director and Chief Surgical Department; Dr. John Dunn, Chief Eye Department; Dr. George Taquino, Chief Eye, Ear, Nose and Throat Department; Dr. Henry L. Tilly, Chief Dental Department; Dr. George Hauser, Chief Medical and Clinical Laboratory; Dr. Adolph Henriques, Chief Consultant X-ray Department; Dr. Paul Gelpi, Consultant G. U. Department; Dr. Edward Faget, Medical Associate to the Chief.

LET US TAKE HEED.

When speaking, let this be your motto, from youth—
The first of all things in importance is truth.

You should think when a virtuous person you see,
"Such virtue is possible also for me,"
And though far below him you move at the time,
By striving you yet to his level may climb.

If wickedness under your vision should come,
Examine yourself lest you also have some;
Repent if you find in your heart aught of sin,
Let your care be increased if you find haught within.

The faults you repent of are nevermore seen,
And are reckoned with those that never have been;
But if ever a failing you try to conceal,
Your efforts a greater will surely reveal.

If your lot with the wrong-doer ever be cast,
Remind him not daily of that which is past,
The personal secrets a man would conceal,
You cannot by right to another reveal.

What you think proper treatment for others would be,
First ask: "Would this conduct be pleasing to me?"
If you would dislike it if done unto you,
Do not do what you would not have other men do.

If these things you neglect, as some people have done,
And spend all your time in book study alone,
You'll become superficial though much you may know,
And to what sort of man can you hope thus to grow?

If you practice these rules and continue their use,
But study no books, you will then be obtuse;
You will see things from only your own point of view,
And thus subvert principles useful and true.

—Rules for Behavior of Children,
Isaac Taylor Headland.

MISSISSIPPI STATE MEDICAL ASSOCIATION NEWS

J. S. Ullman, M. D., Associate Editor.

The Winona District Medical Association met at Winona, Mississippi, Tuesday, December 7, 1926, in the Baptist Church. Its program was as follows:

1. Septic Peritonitis—Joint Paper, Dr. Barksdale, Jackson, Dr. J. K. Avent, Grenada.

2. Incipient Blindness—Dr. B. S. Guyton, Oxford.

3. Some Pediatric Problems in Infancy—Dr. N. C. Womack, Jackson.

4. Practical Management of Hypertension—Dr. Otis S. Warr, Memphis.

5. Early Diagnosis of Tuberculosis by the General Practitioner, Dr. Henry W. Boswell, Sanitorium.

Dr. Raymond T. Smith, of Chicago, has recently moved to Natchez. He is associated with the Chamberlain-Rice Clinic.

The Visiting Staff of the Natchez Charity Hospital held its meeting December 8 and discussed carcinoma of the pancreas and typhoid fever.

Dr. Henry Boswell addressed a joint meeting of the Tennessee State Tuberculosis Association, Civitans Clubs and members of the state legislature at Knoxville on the evening of November 30. The purpose of the meeting was to outline the state program for care of the tuberculous to be brought before the legislature when it meets the first of the year. The subject of Dr. Boswell's address was "Role of Sanitation in Control of Tuberculosis." The address was broadcasted.

Dr. Boswell leaves shortly for New York City to attend a meeting of the Executive Committee of the National Tuberculosis Association. Members of this committee from other sections of the country are Dr. Henry Sewall, Dr. Theobald Smith, Dr. William H. Welch, Dr. David A. Stewart, Dr. Eugene L. Opie, Dr. George M. Kober, Mr. H. B. Platt, ex-officio, Dr. Linsly R. Williams, Mr. John A. Kingsbury, Dr. A. M. Foster, Dr. Alfred Henry, Dr. Charles J. Hatfield, and Professor C. E. Winslow. In the history of the association, Dr. Boswell is the first southerner to be accorded a place on this committee.

The Tri-County Medical Society held its annual meeting at Brookhaven, December 14, 1926, at the King's Daughters Hospital and elected the following officers:

President—Dr. A. B. Harvey, Tylertown.

Vice-Presidents—Pike county, Dr. M. D. Ratcliff, McComb; Walthall county, Dr. J. E. Brumfield, Tylertown; Lincoln county, Dr. G. T. Warren, Brookhaven; Copiah county, Dr. J. M. Catchings, McComb.

Secretary-Treasurer—Miss Elise Rutledge, McComb.

Delegates—Wathall, Dr. B. L. Crawford, Tylertown; Lincoln, Dr. O. U. Arrington, Brookhaven; Copiah, Dr. W. L. Little, Wesson.

Censor—Dr. W. L. Little, Wesson.

Chairman Medical Defense—Dr. T. E. Collins, Brookhaven.

The program of the meeting was of the following subjects:

1. Local Anesthesia in Abdominal Surgery—Dr. Carrol W. Allen, New Orleans, La.

2. President's address—Dr. O. U. Arrington, Brookhaven.

The Central Medical Society held its December meeting and elected officers for the coming year. The annual banquet was also given at this time.

THE SIXTEENTH ANNUAL MEETING OF THE SURGEONS OF THE ILLINOIS CENTRAL SYSTEM.

Met at the Buena Vista Hotel, Piloxi, Miss., December 3 and 4, 1926.

The program was as follows:

Opening of the Meeting by the Secretary.

Reading of Minutes.

Address of Welcome by Honorable J. J. Kennedy, Mayor of Biloxi.

PAPERS AND DISCUSSIONS.

1. "Gas Bacillus Infections in Civil Practice"—By J. W. Barksdale, M. D., Local Surgeon, Jackson, Miss. Discussion opened by Dr. E. Denegre Martin, Consulting Surgeon, New Orleans, La.

2. "Urogenital Ailments of Middle Age"—By H. W. E. Walther, M. D., Consulting Urologist, New Orleans, La. Discussion opened by Dr. V. D. Lespinasse, Consulting Urologist, Chicago, Ill.

3. "The Use of Glucose Intravenously"—By Battle Malone, M. D., Division Surgeon, Memphis, Tenn. Discussion opened by Dr. T. J. Holke, District Surgeon, Freeport, Ill.

4. "Tryparsamid in Neurosyphilis"—By Henry Daspit, M. D., Consulting Neurologist, New Orleans, La. Discussion opened by Dr. George W. Hall, Consulting Neurologist, Chicago, Ill.

5. "Tonsils and the Health"—By J. A. Estopinal, M. D., Assistant Chief Aurist, New Orleans, La. Discussion opened by Dr. H. G. Reynolds, Assistant Chief Aurist, Paducah, Ky.

6. "A Case of Tubercular Peritonitis, Apparently Cured by Intra-Peritoneal Injections of Pure Oxygen"—By L. B. Hudson, M. D., Assistant Chief Surgeon, Hattiesburg, Miss. Discussion opened by Dr. W. H. Wilder, District Surgeon, Birmingham, Ala.

AFTERNOON SESSION.

Reading of the Minutes of the Morning Session.

General business.

7. "Treatment of Simple Contusions and Lacerations"—By I. W. Cooper, M. D., District Surgeon, Meridian, Miss. Discussion opened by Dr. Otis T. Hudson, District Surgeon, Mounds, Ill.

8. "Sudden Disability in Certain Medical Conditions"—By Dr. George R. Herrman, Assistant Professor Medicine, Tulane University, New Orleans, La. Discussion opened by Dr. Charles Louis Mix, Consulting Internist, Chicago, Ill.

9. "Automatic Health Control by Physical Examination"—By Don Deal, M. D., District Surgeon, Springfield, Ill. Discussion opened by Dr. E. G. Thompson, District Surgeon, Memphis, Tenn.

10. "Hernia—Its Treatment"—by C. A. Sheely, M. D., District Surgeon, Gulfport, Miss. Discussion opened by Dr. Darwin Kirby, District Surgeon, Champaign, Ill.

11. "Some Experience with Skin Graft"—By C. P. Brown, M. D., Assistant Chief Surgeon, New Orleans, La. Discussion opened by Dr. F. H. Gunn, Division Surgeon, East St. Louis, Ill.

12. "Management of Compound Fractures"—By J. C. Willis, Sr., M. D., Local Surgeon, Shreveport, La. Discussion opened by Dr. Frank Boyd, Surgeon, Paducah, Ky.

FIRST DAY

Friday, December 3, 1925

Evening Session

Annual Dinner—Buena Vista Hotel

Main Dining Room

7 O'clock P. M.

KEEP MISSISSIPPI IN THE REGISTRATION AREA.

The National Bureau of Census has been talking about Mississippi's Bureau of Vital Statistics. They say that the birth and deaths are not being reported as they should be; that is, there must be some doctors somewhere who are failing in their duty in this respect. It hardly seems necessary to remind a physician that birth registration is necessary "to prove the child's age and citizenship, his right to attend school and to work, to inherit property, to hold office, to secure passports for foreign travel, and to prove a mother's right to a widow's pension"; but still the fact remains that more than ten per cent of the births in this state are not being reported. It is not likely that a man who is indifferent to such of his duties may have much pride in his state, but let us hope that the doctors who have been derelict in this respect will rally in an effort to save Mississippi's name. Let us keep her in the registration area.

It has been suggested by a number of physicians that in many parts of the state a great many confinements are managed by negro mid-wives. It is possible that some of the mid-wives have been warned not to practice unless they improve their ways and if they have disregarded this warning they are naturally afraid to hand in a birth report.

MICROBE HUNTERS.

Heywood Broun says of de Kruif's work that it is one of the most exciting that he has read in many days, that it is full of blood, thunder, and heroes. Not only will this brilliant book prove of interest to every physician because of its witty biographical sketches of Pasteur, Kotch, Theobald Smith, Walter Reed, to mention only a few; but it ought to go a long way toward putting microbes on the map for doubting Thomases among the laity in general and in particular for those adherents of the various so-called cults. Many a physician would do well to suggest that his patients read this work. It is inconceivable that anyone, reading of the steps taken by these heroes of science to prove the existence of these little beasts and how they do their damage, can fail to be convinced.

BEWARE OF THE "COLD"!

This is the season when we like to huddle about the fire, to keep out of drafts, and to keep our feet dry. People are always telling us that winter is the season of colds but they do not explain why it is that colds increase in about the same ratio and about the same time in Florida and California as in the Dakotas and bleak New England.

Let us teach our patients to keep themselves warm and comfortable, if they wish, but to avoid crowds whether at the theater, church, or in places of business, as well as to keep away from the individual who is spraying infectious bacteria from his nose and throat as he talks, coughs, or sneezes.

The medical profession so far has not been successful in doing anything to prevent respiratory diseases and probably will not do so until they can teach that a cold is infectious and that the chilling of the body surface does not play an important part in lowering one's susceptibility.

At the regular meeting of the Warren County Medical Society, December 14, 1926, it was decided to call the new consolidated society. The Issaquena-Sharkey-Warren Medical Society and the following officers were elected:

President—Dr. Edley H. Jones, Vicksburg.

Vice-Presidents—Issaquena, Dr. W. H. Scudder, Mayersville; Sharkey, Dr. A. K. Barrier, Rolling Fork; Warren, Dr. J. L. Clark, Vicksburg.

Secretary and Treasurer—Dr. Leon S. Lippincott, Vicksburg.

Board of Censors—Dr. A. Street, Vicksburg; Dr. Williard H. Parsons, Vicksburg; Dr. G. P. Sanderson, Vicksburg.

Delegates—Dr. Leon S. Lippincott, Vicksburg.

The program was as follows:

1. "The Life of Louis Pasteur"—Dr. Percy Wall, Jackson.

2. "Some Local Aspects of Malaria"—Dr. Leon S. Lippincott, Vicksburg.

MISSISSIPPI SCHOOL AND COLONY FOR THE FEEBLEMINDED.

This letter is worthy of the attention and untiring efforts of every doctor in the state of Mississippi. It is hoped that every man will do the utmost to help this good cause.

"As a practitioner of medicine and guardian of the public health you undoubtedly appreciate my effort in behalf of the work with the feebleminded of our state. Certainly you are in favor of early recognition of these unfortunates and the provision of proper treatment and segregation, as a means of reducing our incompetent citizenship, and failure, due to lack of intelligence. Feeblemindedness is the mother of pauperism, and also is responsible for much of the crime, prostitution and general human failure, costing huge sums.

"In the first place these defectives should not be allowed to marry and reproduce their kind. You are probably aware that a building program for the institution has not been provided. We have now been here, a mere camp, six years. Our population is 134, with a waiting list of 460, who can not be admitted until buildings and equipment are provided.

"I have a greater vision of the work than merely providing an adequate institution. We should have mental examination of the retarded school children, and I expect to have a bill prepared to this end, for passage, at our next session of the legislature. Mental clinics in our schools will enable us to recognize and control the majority of children who are to become future problems to society. Such a procedure can be launched with comparatively small expense, and in the course of a few years the state would have a census of all the defectives within its borders. The psychopathic and delinquent children should also be included in the mental clinics.

"I am appealing to you, as a man of influence in your community to assist me to build public sentiment for this work, which is both one of love and science. These unfortunates should have consideration and in return for our expense and effort we shall reap an immense reward through a more intelligent and productive citizenship.

"I hope you may find time to talk to your citizens and clientele about this matter, and also make it an issue in the coming political campaign; especially with candidates for governor and the legislature. The last legislature gave us a small building for females. It will house about 50, and we have the applications of more than 200. Doctor, I will appreciate your influence in this matter. We who have normal children are not mindful enough of our unfortunate neighbors, who are borne down with defective children and need our help.

"As we look into the glow of our Yuletide fires, with our normal healthy children about us, we should pause and give thanks that we are spared the lot of caring for one or more defective children.

"With best wishes for a merry Christmas, and a happy New Year, I am,

"Fraternally yours,

"H. H. RAMSAY, M. D., Supt."

BOOK REVIEWS

Ears and the Man: By Annetta W. Peck, Estelle E. Samuelson and Ann Lehman. Philadelphia, F. A. Davis Co. 1926.

A book fresh from the field of experience in a new phase of social work. Full of clear-cut, practical and adaptable recommendations. It is a real text book and should make an appeal and be of value not only to the otologist but to the social worker, deafened or otherwise, the general physician, boards of education and educators, and to all deafened people who are striving to rise above their obvious limitations.

W. MARVYN JOHNSON, M. D.

Pathology and Treatment of the Inflammatory Diseases of the Nasal Accessory Sinuses: By M. Hajek. 5th ed., rev. and enl. 2 v. St. Louis, C. V. Mosby Co. 1926.

These two volumes are indeed a most worthy contribution to the literature on sinusology. The excellent translation is rendered in a style which is clear and concise and leaves nothing to the imagination.

The first volume includes the embryology, normal and pathologic anatomy and the latest theories on the physiology of the accessory sinuses. The chapters on pathogenesis and general pathological anatomy are most instructive. The diagnosis and surgical treatment of each group of sinuses are described in detail and the author enters into a discussion on the relative merits of the various operations in vogue. Brief mention is made of the American methods and in rare instances are any of the American surgeons commended.

The chapter on complications following surgical intervention is well worth reading. In spite of the sarcasm which crops out, these two volumes as well worth reading for they comprise a storehouse of knowledge in their special field.

F. E. LEJEUNE, M. D.

Text-Book of Materia Medica for Nurses: Compiled by Lavinia L. Dock, R. N., and Jennie C. Quimby, R. N. Eighth edition, rewritten and revised according to the standard curriculum. New York and London, G. P. Putnam's Sons. 1926.

The revised edition of this well-known textbook will simplify somewhat the study of materia medica by student nurses. The authors have drawn upon their large experience as teachers in making the revision. Of those drugs having similar qualities the less important have been omitted from consideration and emphasis has been placed on practical study of medical preparations of drugs. To familiarize the student nurse more thoroughly with the actions of the different drugs, a clearer subdivision is followed, as outlined in its standard curriculum of instruction for schools of nursing. The best and latest authorities and books of reference have been followed in preparing the text.

FRANCIS M. MUNSON, M. D.

Fundamentals of Dermatology: By Alfred Schalek, M. D. Philadelphia, Lea & Febiger. 1926.

The author has elected in this small volume of 228 pages to give a treatise of dermatology a bit different from the usual text, in that he lists the disease in alphabetical arrangement. The paragraph, dermatological aphorisms, are very well arranged and the information contained is to the point.

The roentgen-ray as a therapeutic agent is dealt with supra-cautiously by the author. In the section on syphilis, so little mention is made of salvarsan dermatitis that the reader completely overlooks it as a hazard to be encountered.

The author is a very conservative writer and as the treatment of most skin disease calls for conservation, therefore, if conservation alone is impressed upon the reader this volume deserves its place upon the book shelf of the medical library.

M. T. VAN STUDDIFORD, M. D.

The Human Body: By Marie Carmichael Stopes, Dr. Sc. Dr. Ph. With 53 illustrations and color plates. New York and London, G. P. Putnam's Sons. The Knickerbocker Press. 1926.

Dr. Stopes' book is a compendium of human anatomy and physiology intended for the intelligent lay reader. She handles the various topics in a scientific manner that conveys the information intended. The text is free from pedantry and prudery and could be pursued with advantage by non-medical workers in the field of social hygiene.

FRANCIS M. MUNSON, M. D.

Surgical Anatomy of the Human Body: By John B. Deaver, M. D., Sc. D., LL.D., F. A. C. S. Vol. 1, 2d edition. Philadelphia, P. Blakiston's Son & Co. 1926.

Revision of this well-known work follows the original edition after an interval of twenty-five years. Each of the three volumes of the present

edition embraces surgically related regions, an arrangement of value for practical reference. The first volume is devoted to the head. Volume two deals with the upper extremities, neck, shoulders, back, and lower extremities. Volume three covers the chest, pelvis, and perineum.

Volume one only is available to the reviewer. Its contents are grouped under the following headings: Surface Anatomy of the Cranium; Brain; Face; Mouth; Pharynx; Larnyx; Nose; Orbital Contents; Ear. Treatment of the material under each heading conforms to the natural approach in dissection, and instruction for dissection are added wherever the need is indicated. Practical considerations are placed in immediate company with descriptions of individual structures and limited regions. Typographical aids to emphasis, both in organization and type styles, have been resorted to with good effect. There are one hundred and twenty-four plates, mostly excellent. Old terms are given preference, unfortunately, although the parenthetical insertion of BNA equivalents partially offsets the objection.

The book is avowedly "not alone an adjunct to, and application of descriptive anatomy, but rather the bridge between the study and practice of surgery itself." It should be of more particular value to the practitioner as a reference, rather than as a formal text. Regrettably, the revision has not been brought to date throughout in matters concerned with the nervous system, its value as a new edition being accordingly lessened.

HAROLD CUMMINS, M. D.

Bi-Polar Theory of Life Processes: By George W. Crile; ed. by Amy F. Rowland. New York, The Macmillan Co. 1926.

A scholarly treatise for the research worker, well supported by experiments in proof of hypotheses. Such a work is necessarily outside the field of the general practitioner or specialist, but it is interesting in its display of unusual material, a fact characteristic of the author's work.

P. T. TALBOT, M. D.

The Thyroid Gland: The Beaumont Foundation Lectures, Series Four. Auspices of Wayne County Medical Society: By Charles H. Mayo, M. D., and Henry W. Plummer, M. D. St. Louis, The C. V. Mosby Company. 1926.

These lectures are refreshing dissertations on a subject that is not always presented in an interesting manner. They present a short but illluminating epitome of the anatomy, physiology, and development of the thyroid gland and the parathyroids and of the etiology and bacteriology of goiter. The biologic chemistry of the thyroid is dwelt upon and the cultural side of the subject, its place in medical history, etc., is not neglected. The bibliography will be of value to the busy worker who cares to pursue the matter further.

FRANCIS M. MUNSON, M. D.

Hay-Fever and Asthma: By Ray M. Balyeat, A. M., M. D. Illustrated. Philadelphia, F. A. Davis Co. 1926.

The purpose of the book seems to be in line with the advanced idea of supplying the laity with information on medical subject. It is profusely illustrated and the whole matter is very clearly and cleverly presented.

The general practitioner will find the book useful as it presents practically all the accepted facts on hay-fever and asthma but not much detail is given for treatment. In the critic's opinion adrenalin is given a rather prominent place.

The chapters on indirect ventilation, on pollen in dust and snow are good. The author also brings out many useful points: he disapproves of change of climate and urges that particular attention be paid to croup of children, as he considers this in many instances a forerunner of hay-fever, asthma in later life. He insists on treatment being continued for a period of four years.

NARCISSE THIBERGE, M. D.

The Principles of Anatomic Illustrations Before Vesalius: By Fielding H. Garrison, A. B., M. D. New York, Paul B. Hoeber Inc. 1926.

In this book the author has brought before us the review of the field of anatomy up to and including some of the work of Leonardi di Vinci, whom he speaks of as being the founder of artistic (morphological) and physiological anatomy. His many valuable plates stimulated the reader to continue to see what he may find next.

WILLIAM C. SMITH, M. D.

The International Medical Annual: A Year Book of Treatment and Practitioner's Index. Forty-fourth year. New York, William Wood & Company. 1926.

The forty-fourth volume of this famous annual retains all the valuable features of the preceding ones. It is the same practical book that has saved time and money for two generations of doctors. In the introduction a brief account is given of the general drift of medical work published in the past year, with particular attention to successful treatment. All the new means of early diagnosis are reviewed, and new applications of the prin-

ciples of preventive medicine are discussed. The contributors include some of the most distinguished medical men in the English-speaking world.

FRANCIS M. MUNSON, M. D.

Surgical Treatment of Goiter: By Willard Bartlett, A. B., A. M., M. D., D. Sc., F. A. C. S. Illus. St. Louis, C. V. Mosby Co. 1926.

In this monograph reference is made only to the important fundamental considerations involved in the goiter problem; the many new truths concerning the thyroid and their clinical applications are also forcibly brought out.

The essential factors in the treatment of goiter, especially the toxic type, are individualization and realization that it is not a one-man job, hence the necessity for a supporting group of specialists—internist, laryngologist, roentgenologist, pathologist and surgeon.

The chapter, Heart in Goiter, is timely for it shows the role played by the heart in various types of goiter; also that cardiac symptoms are very frequently present and that cardiac failure is one of the principle causes of death in goiter patients.

The chapter, Details of Technic, is inadequate; the illustrations are good showing in minutest detail the many minor points. However, the use of calipers to determine the length of the intended "mid robbon muscle split" seems superfluous.

Attention is directed to the many complications peculiar to goiter surgery; a thorough and lengthy discussion—as an aid in their prevention as well as a remedy—is entered into. This in itself is well worth the time of any one interested in goiter surgery.

From the reviewer's point of view, it seems that the author has accomplished his mission, for he states that "this monograph is intended as a study in detail of the elaborate procedure involved today in the preparation, operation and after care of the goiter patient;" that "it is written in the hope that it may appeal to the well-trained young general surgeon who is inclined to broaden his experience in the special field of thyroid surgery and if it adds anything to the safety and comfort of his patients, his mission will have been accomplished."

PAUL G. LACROIX, M. D.

Rational Gland Therapy for Women, Particularly in Relation to Menstruation: By I. Wanless Dickson, M. D., F. R. C. S. New York, Paul B. Hoeber. 1926.

A very interesting thesis on the proper management by endocrine therapy of various symptoms derived from a disturbed balance of the endocrinal interrelationship. The author lays emphasis on the cause of failure to get results because of lack of thorough analysis and the exhibition of the proper gland therapy. The failure to prescribe proper dosage is another cause of failure to obtain results. Though gland therapy is still in its infancy, much benefit may be derived by those who suffer from endocrinal disturbance, if the physicians in attendance would only go into the symptoms in detail and have a clear understanding of the case in question.

A. JACOBS, M. D.

PUBLICATIONS RECEIVED.

P. Blakiston's Son & Company, Philadelphia: "Principles and Practice of Oral Surgery," by S. L. Silverman, D. D. S., F. A. C. D. "Recent Advances in Physiology," by C. Lovatt Evans, D. Sc., M. R. C. S., L. R. C. P., F. R. S.

Paul B. Hoeber, Inc., New York: Pneumoconiosis (Silicosis), by Henry K. Pancoast, M. D., and Eugene P. Pendergrass, M. D.

G. P. Putnam's Sons, New York and London: "A Sound Economic Basis for School of Nursing," by Mary Adelaide Nutting, R. N., M. A.

Wm. Wood & Company, New York: Medical Record Visiting List, 1927.

C. V. Mosby Company, St. Louis: "Practice of Preventive Medicine," by J. G. Fitzgerald, M. D., L. L. D., F. R. S. C. "Shell Shock and Its Aftermath," by Norman Fenton, Ph. D. "Diseases of Women," by Harry Sturgeon Crossen, M. D., F. A. C. S. "Physiology and Biochemistry in Modern Medicine," by J. J. R. MacLeod, M. M., LL.D., D. Sc. F. R. S.

J. P. Lippincott Company, Philadelphia and London: "Human Pathology," by Harold T. Karsner, M. D.

F. A. Davis Company, Philadelphia: "Practical Surgery of the Joseph Price Hospital," by James William Kennedy, M. D., F. A. C. S.

Government Printing Office, Washington: "The Medical Department of the United States in the World War," Volume VI, Sanitation.

Miscellaneous: "The Rockefeller Foundation," Annual Reports, 1925. Report on Third International Congress of Military Medicine and Pharmacy, Paris, April, 1925, by Commander William Seaman Bainbridge, M. C.

REPRINTS.

"The Study of Rectal Diseases in America," by J. F. Montague, M. D., F. A. C. S., New York. "Visions directe dans son oeli des globules du sang et de leurs mouvements," by Dr. E. P. Fortin. "Les Vrais Capillaires," by Dr. E. P. Fortin. "Capillaires et Capillaroscopie de la Retine," by Dr. E. P. Fortin.